THE REPORT

OF THE

PRESIDENT

OF

QUEEN'S COLLEGE, BELFAST,

FOR

THE YEAR ENDING 1st MARCH, 1862,

WITH APPENDICES.

Presented to both Houses of Parliament by Command of Her Majesty.

DUBLIN:
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FOR HER MAJESTY'S STATIONERY OFFICE.
1862.

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THE REPORT

OF THE

PRESIDENT OF QUEEN'S COLLEGE, BELFAST,

FOR

THE YEAR ENDING MARCH 1, 1862.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR MAJESTY,

I had the honour, last year, of presenting to your Majesty in my Annual Report of this College, a very encouraging statement of its steady progress. The number of Students in attendance for the year ending March, 1861, was 312, being an increase over the then previous Session of 57 Students; and, looking back to the Session 1852–3, constituting an advance in numbers on the roll for the year since that time, of 158. It is a circumstance highly satisfactory that in the present Session the numbers present at lectures have risen to 375, being an increase over the last year's return of 63. Of the 375 now present, 297 are Matriculated men. Almost the entire of the Non-Matriculated Students are Medical, belonging to a class in that department who frequently pass to other Universities and take their Diplomas in London, Edinburgh, or Dublin.

RETURN of the Total Number of Students attending Queen's College, Belfast, since the year 1852.

Session.	Matriculated.	Non-Matriculated.	Total.	Session.	Matriculated.	Non-Matriculated.	Total.
1852–53,	101	53	154	1858–59,	160	63	223
1853–54,	114	54	168	1859–60,	199	58	257
1854–55,	118	65	183	1860–61,	239	73	312
1855–56,	119	74	193	1861–62, in so far,	298	77	375
1856–57,	136	58	194				
1857–58,	153	54	207				

NUMBER of new Students, or Freshmen, Matriculated and Non-Matriculated, attending Queen's College, Belfast, for the first time in the Session 1861–62.

Matriculated,	113
Non-Matriculated,	40
Total,	153

Thus the fact that in the present Session 153 Students have entered Belfast College for the first time, 113 of whom passed the Matriculation Examination, is well worthy of being noted as at once affording a proof of the position which the College has asserted in public estimation, as well as a ground of inspiring confident expectation, that the great objects contemplated by the founders of the Queen's Colleges, will, through the adaptation of these Establishments to the wants of the time and the educational circumstances of the community, be permanently secured.

To the position of the Medical School of the College, I refer with very high satisfaction. The subjoined table is sufficient to show the marked and steady progress of that very important department, which now contains 129 Students, 81 of whom have passed a Matriculation Examination, which in many other Colleges and Universities is not held to be necessary as a pre-requisite for graduation. In connexion with this, I cannot but congratulate, not only the College in particular, but the general public, who are so deeply interested in the sound and proper education of medical practitioners, that at length your Majesty's Government have been pleased with the sanction of Parliament to lay the foundation, within the College grounds, of a portion of the anatomical building so indispensably required to be located there for the advantage of the Medical Students. The portion of those buildings which the Board of Works are empowered, at present, to erect are being rapidly proceeded with, and will be ready for occupation at the beginning of the forthcoming Session.

RETURN of the Number of Medical Students in attendance in each Session.

Session.	Matriculated.	Non-Matriculated.	Total.	Session.	Matriculated.	Non-Matriculated.	Total.
1849–50,	28	27	55	1856–57,	36	25	61
1850–51,	20	35	55	1857–58,	35	32	67
1851–52,	25	39	64	1858–59,	45	34	79
1852–53,	29	33	62	1859–60,	56	39	95
1853–54,	29	37	66	1860–61,	70	46	116
1854–55,	39	36	75	1861–62,	81	48	129
1855–56,	33	48	81				

The Denominational Table is here annexed, affording another proof that Students of the different churches can, with advantage receive within the same walls the blessings of an education calculated not only to qualify them to take high rank in the different professions presented to their hopes and their ambition, but also in all the future struggles of intermixed life; whilst it shows that men may conscientiously differ in many matters of faith and of opinion, and yet, by early intercourse may become prepared for co-operating beneficially in extending throughout the country sentiments of mutual forbearance, and the great principles of that united action which binds together the framework of the State.

DENOMINATIONAL RETURN.

	SESSIONS.		
	1859–60.	1860–61.	1861–62.
Established Church,	43	57	59
General Assembly,	160	189	221
Non-Subscribing Presbyterians,	15	14	29
Roman Catholics,	16	22	17
Wesleyan Methodists,	8	7	13
Covenanters,	8	9	12
Seceders,	1	4	4
Independents,	2	–	4
Baptists,	–	–	1
Various,	4	9	14
Religious Denomination withheld,	–	1	1
Total,	257	312	375

The following return gives the number of the Scholarships awarded in the present Session; and I beg here to enter my entire dissent from the statements that have been made calculated to exaggerate the number of Scholarships in comparison with the numbers of the Students of the College. May I express a hope, that, once for all, this misapprehension may be removed by the statement of the fact, that there does exist a peculiar organization in respect to these Scholarship Exhibitions, which is not known in other Universities. In the Queen's Colleges each Scholarship determines at the end of the year, and must be competed for anew and annually, at the opening of every Session by all qualified to enter the lists. The Scholar of the first year may not be the Scholar of the second year in his department, but may be defeated by some Student from whom he had previously carried the prize.

In other Universities Scholarships are generally held for three, four, or five years.

SCHOLARSHIPS awarded in the several Faculties, 1861–62.

5 Senior Scholarships in Arts.
2 Do. Medicine.
30 Junior Scholarships in Arts.
2 Engineering Scholarships.
2 Agricultural Scholarships.
5 Medical.
3 Law.

LAPSED.

2 Senior Scholarships in Arts.
2 Scholarships, 2nd year, Agriculture.
1 Medical Scholarship, 3rd year.

Whether in regard to the sister Colleges of Cork or Galway, or to the older Universities, this College continues to hold a distinguished place in all the departments of public and general competition, as the following return will show:—

"Since the year 1857, twelve Students of Queen's College, Belfast, have obtained appointments to the Civil Service of India. Of these Students, one stood first in the list of the successful candidates of his year, another stood second, two stood fourth, another tenth, another fifteenth, another seventeenth, &c., as will appear from the following list:—

"In the year 1857, Beveridge, Henry, stood 1st on the entire list; Barkley, D. G., 4th; Smyth, John Watt, 10th. In the year 1859, Mulligan, John Watson, stood 2nd on the entire list; Wilson, John, 17th. In the year 1860, M'Minn, Charles Wm., stood 4th on the entire list; Porter, John Sinclair, 15th; Smyth, Thos. Watt, 35th; Spedding, Robert Deey, 40th; Parke, David Rowan, 72nd. In 1861, Patterson, Alexander B., stood 38th on the entire list; M'Watters, George, 52nd.

"The following extract, from p. 31 of the last Report of Her Majesty's Civil Service Commissioners, will show the great success of the Students of this College in the year 1860:—

"'It may not be uninteresting to observe in which institutions candidates most distinguished in particular branches had been educated.

"'In English Composition, the best two were from Trinity College, Dublin, and the University of Melbourne. In English Literature, the best was from Queen's College, Belfast; the second was from North London Collegiate School. In Classics, the best was from Corpus Christi College, Oxford; the second from Oriel College, Oxford; the third from Trinity College, Dublin. In Mathematics, the best was from Queen's College, Belfast; the second from Queen's College, Galway; the third from Trinity College, Dublin. In Natural Science, the best was from Queen's College, Belfast; the second from Queen's College, Galway; the third from Trinity College, Dublin. In Moral Science, the best was from

Aberdeen University; the second from Corpus Christi College, Oxford. In Sanskrit, the best was from Trinity College, Dublin; the second from St. Paul's School; the third from Queen's College, Belfast. In aggregate of merit, the first was from Corpus Christi College, Oxford; the second from the University of Aberdeen; the third from the University of Melbourne.'

"It may be added, although not mentioned by the Commissioners, that the fourth in aggregate of merit was from Queen's College, Belfast.

"With regard to the answering of candidates in special subjects, the twelve successful candidates from Belfast obtained no fewer than nine first and six second places, the details of which are given: In English Composition, one 1st place and one 2nd place; English Literature and History, one 1st place and two 2nd places; French, one 1st place and one 2nd place; Mathematics, two 1st place; Mental Science, three 1st place and one 2nd place; Moral Science, one 1st place and one 2nd place.

"Of all the candidates who competed from Queen's College, Belfast, it is believed that only three have been unsuccessful. Of these three, one competed for the first time at the last examination, and will present himself again.

"At the Inns of Court the First Law Studentship has been obtained twice by Students of the same College.

"At the Woolwich examinations for admission to the Royal Artillery and Engineers, the first place was obtained in the year 1856 by Mr. Millar, of the same College.

"As a proof of the soundness of the education given at Queen's College, Belfast, it may be stated that not only did Mr. Millar gain the first place on his admission to Woolwich, but that, at an examination held in the following year, he stood first in Mathematics and in Chemistry. In the former branch his marks were 591 above the second man in a class of thirty cadets who had the year before been selected out of ninety-four candidates.

"As further evidence to the same effect, the following extract is given from the Annual Report, submitted to the Governor-General of India, by Thomas Douglass Forsythe, C.B., Commissioner of the Lahore District, in reference to Mr. John Watt Smyth, one of the successful candidates for a civil appointment in India, in the year 1857:—'I must not forget to mention here the services of Mr. Smyth, my personal assistant, when I officiated for three months as Commissioner of Mooltan. He won my admiration by his clear and correct method of doing business. His abstracts of cases were perfect analyses.'

"Mr. Egerton, Commissioner of the Amritsur Division, also reports:—'Of the Assistant-Commissioners, Captain M'Mahon and Mr. Smyth stood first.'

"Since I transmitted the return to your Lordship, the result of the examination of the selected candidates of 1860, for the Civil Service of India, has appeared in the *Times* of Saturday, August 24.

"The following table exhibits the position of the selected candidates from this College, and shows that they occupy a much higher position at the second examination than they had done at the first. I may further add, that these gentlemen pursued their studies, during the past Session, under the superintendence of the Professors of the College:—

COMPARATIVE STANDING of CANDIDATES from QUEEN'S COLLEGE, BELFAST.

		In 1861.	In 1860.
J. S. Porter	obtained	3rd place	15th place.
R. D. Spedding	„	10th „	40th „
T. W. Smyth	„	25th „	55th „
D. R. Parke	„	28th „	72nd „

Another instance of remarkable success on the part of the Students of this College is furnished through the Competitive Examinations for the Exhibitions so munificently founded by Sir Robert Peel and Mr. Alexander Thom, of Dublin, at the commencement of the present Session. These were competed for by Students of the three Colleges. The two first-class prizes of £40 each were carried by Students of this College, and also three out of the five of the second-class, making in all, gained by Students of the Belfast College £140 out of £180.

Respecting the advancement of the Queen's University in Ireland, which affiliates the three Colleges of Belfast, Cork, and Galway, a striking progress is brought out by the returns of the numbers of students who annually graduate in the departments of arts, law, and medicine. In October, 1860, eighty-seven degrees and certificates were conferred by the Vice-Chancellor, after the usual examination in St. Patrick's Hall, Dublin Castle, in presence of His Excellency the Lord Lieutenant. In October, 1861, 128 degrees and certificates were conferred, exclusive of twenty-three middle class certificates given on examination to candidates who had not attended College.

I am sorry to report, that the necessity for an alteration in the Statutes of the Queen's Colleges which define the duties and powers of the Deans of Residences, becomes every day more apparent. There is manifestly a defect in the law laid down in chap. 18 of those Statutes, which requires reconsideration and amendment. In the meantime, in reference to the forthcoming session, in the arrangement made by the College Council for the hours of lectures, a portion of one day is left unoccupied by the general business of the College, so that at that time, if the Deans avail themselves of it, they can have access to the Students, over whose spiritual instruction the Statutes give them control. It will, however, rest with the Government seriously to consider the question of placing the Deans in a better and more intelligible position, by having them constituted paid functionaries of the College. With the concurrence of the Deans, means might be adopted for assigning, at least the Junior Students of the College to the clergy of the different denominations resident in the towns of Belfast, Cork, and Galway, so as to have them, in the records of the College, statedly connected with the different congregations, but in such a manner as not to interfere with the full and free exercise of parental desire and authority. No doubt the Students do stand already congregationally connected; but a co-operation between the Deans and the local clergy of their denominations, respectively, might be very advantageously adopted.

Circumstances of various kinds have produced the continued want of provision being made on the part of the Government for the establishment of Intermediate Schools in Ireland. No action has yet been taken for introducing a measure into Parliament founded on any part of the suggestions contained in the Report of the Commissioners of the Royal Endowed Schools in Ireland. It is deeply to be regretted, that throughout all the counties of Ireland the most lamentable deficiency of properly organized Schools, to afford to pupils of all denominations the elements of an advanced education, so as to fit them, not only for the Universities, but the various professions and occupations of life, does too evidently exist; and it is to be hoped that at a period when the question of education is exciting an interest so deep and universal, this part of the subject may attract the serious attention of Her Majesty's Government and of Parliament.

Lapsed funds, and a small annual grant, would enable the Government to make a commencement in giving to the scheme of Intermediate Education a proper trial.

I cannot conclude this Report without expressing my most anxious hope, that the renewed effort made by the Professors of the three Colleges to obtain an increase to their salaries, so as to render their incomes in some degree proportionate to their universally acknowledged eminence, and their great services and labours, may be immediately successful. Year after year, these most zealous and efficient public servants had reason to hope that their salaries might be brought up to the amount which Parliament originally intended; but annually their just and reasonable expectations have been disappointed; and it affords me great pain to state, that whilst the Commissioners for regulating the Scotch Universities have, very properly, in an Ordinance dated November, 1861, given a list of emoluments which they propose for the Chairs of those Universities (on an average more than double the incomes of the Queen's Colleges Professors), that at this moment the question of the increase of the salaries of the Irish Professors requires to be urgently pressed. The Presidents of the three Colleges have not failed to give their zealous and united support to the representations to Government of the still existing hopes of the Professors; and having afforded our best assistance, I and my colleagues, Sir Robert Kane and Mr. Berwick, are deeply solicitous that our efforts, so often made, may now carry success.

I am myself aware that the claims of the Professors for augmentation of salary have been fully and frequently admitted by successive Viceroys, and leading members of your Majesty's Government.

Various Returns of the number of Students in each class, of the amount of Fees paid to each Professor, and of the number of Lectures delivered from each Chair, together with the accounts of Expenditure, the enlarged digest of subjects, and the papers used at the various Examinations, will be found given in full length in the Appendix.

All of which, on behalf of this College, is testified by your Majesty's most dutiful servant,

P. SHULDHAM HENRY,

President.

QUEEN'S COLLEGE, BELFAST,
March 31, 1862.

ORDINANCE

Of the QUEEN'S UNIVERSITY in IRELAND, prescribing COURSES in the FACULTY of ARTS, and AMENDING FORMER ORDINANCES.

1. COURSE FOR THE DEGREE OF BACHELOR IN ARTS.

Candidates for the Degree of Bachelor in Arts are hereby required—

1. To have been admitted Matriculated Students of one of the Colleges of the Queen's University in the Faculty of Arts.
2. To have subsequently studied in one of the Colleges of the Queen's University the Course herein prescribed.
3. To have passed the University Examinations herein prescribed.

The Course for the Degree of Bachelor in Arts shall extend over three Sessions, and shall comprise attendance on the following curriculum:—

FIRST SESSION.

English (One Term).
Greek.
Latin.
Modern Continental Languages.
Mathematics.

SECOND SESSION.

Logic (One Term).
Natural Philosophy.

Along with any two of the following:—

Greek (Second Course).
Latin (Second Course).
Modern Continental Languages (Second Course).
Mathematics (Second Course).

THIRD SESSION.

English Language and Literature.
Metaphysics, or History, or Political Economy. (Two Terms).
Chemistry.
Zoology, or Botany.

Attendance on these Courses shall, in all cases, be understood to include passing such examinations as may be appointed by the College Council, and the catechetical parts of the Courses of Lectures.

Candidates for the Degree of Bachelor in Arts shall reside at their respective Colleges during at least the first two terms of each Session, but may be exempted from residence during the third term by a special grace of the College Council.

Third year's Students may substitute attendance on one or on two Courses of Honor Lectures, for a like number of the Courses above set down for study in the third Session.

Candidates for the Degree of Bachelor in Arts shall pass two University Examinations—a Preliminary and a Degree Examination.

The Course for the Preliminary Examination, shall include Greek, Latin, a Modern Continental Language, and Mathematical Science. Students who have completed their second Session must pass this Examination before rising to the third year, unless prevented by illness or other inevitable accident, in which case the Senate may admit them to a Supplementary Examination.

Candidates who have completed the Undergraduate Course, may offer themselves at the Degree Examination for graduation either with Honors or without Honors.

If they seek to graduate with Honors, they may select for their Examination any one of the following groups:—

Greek and Latin.
Modern Continental Languages.
Mathematical Science.
Experimental Science.
Natural Science.

Or any two of the following:—

English Language and Literature.
Logic and Metaphysics.
Logic and History.
Logic and Political Economy.

Candidates who seek the Degree without Honors, may select for their Examination any group of subjects from the following list, provided the sum of the numbers attached in this list to the selected subjects be at least four:—

English Language and Literature,	2	Latin,	1
Mathematical Science,	2	Each Modern Continental Language,	1
Experimental Physics,	2	Logic,	1
Chemistry,	2	Metaphysics,	1
Zoology,	1	History,	1
Botany,	1	Political Economy,	1
Greek,	1		

English Composition will form a part of all University Examinations.

This Ordinance is binding on all Candidates for the Degree of Bachelor in Arts who have not completed the first year's Course. Students now in their second or third Session shall proceed under the Ordinances hitherto in force.

2. Course for the Degree of Master in Arts.

Bachelors in Arts of one year's standing, may offer themselves for Examination for the Degree of Master in Arts, and may select for their Examination any one of the following groups:—

Greek and Latin.
Modern Continental Languages.
Mathematical Science.
Experimental Science.
Natural Science.

Or any two of the following:—

English Language and Literature.
Logic and Metaphysics.
Logic and History.
Logic and Political Economy.

This Ordinance supersedes former Ordinances prescribing the curriculum for the Degree of Master in Arts.

3. Course for the Diploma of Licentiate in Arts.

A Diploma conferring the title of Licentiate in Arts of the Queen's University in Ireland, shall be granted to Candidates who comply with the following regulations:—

Candidates for this Diploma are hereby required—

1. To have Matriculated in one of the Colleges of the Queen's University.
2. To have pursued in one of the Colleges of the Queen's University the Course herein prescribed.
3. To have passed the University Examination herein prescribed.

The Course for the Diploma of Licentiate in Arts shall extend over two Sessions, and shall comprise attendance on the following curriculum:—

FIRST SESSION.

Two Languages, of which one may be English.
Mathematics.
Another Course on any subject in the annexed list.

SECOND SESSION.

Greek, Latin, or a Modern Continental Language.
Logic (One Term).
Natural Philosophy.
And two other Courses on subjects in the annexed list.

If any of the Courses, except that on Logic, extend over one term only, some other Course from the annexed list must be attended as a supplement to it, but not necessarily in the same Session.

Credit will not be given for attending the same Course of Lectures a second time.

Attendance on the Courses shall, in all cases, be understood to include passing such Examinations as the College Council shall appoint, and the catechetical parts of the Courses of Lectures.

Candidates for the Diploma of Licentiate in Arts shall reside at their respective Colleges during at least the first two terms of each Session.

After having completed the above curriculum, Candidates for the Diploma shall pass a University Examination in Greek, Latin, or a Modern Continental Language; in Mathematical Science; and in two other subjects selected from the annexed list, viz.:—

The Mathematical Sciences.
The Experimental Sciences.
The Natural Sciences.
Geometrical Drawing.
Mensuration, Levelling, and Mapping.
Anatomy and Physiology.
English Language and Literature.
The Modern Continental Languages.
Greek.
Latin.
Logic.
Metaphysics.
History.
Political Economy.

English Composition will form a part of all University Examinations.

Licentiates in Arts who may desire to proceed to the Degree of Bachelor in Arts, may enter directly on the second Session in the Course for this Degree, provided they attend in it, instead of the usual curriculum, all the Courses prescribed for the first two years which they shall not have already attended in the curriculum for the Diploma of Licentiate.

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4. EXAMINATION OF CANDIDATES WHO ARE NOT MEMBERS OF THE UNIVERSITY.

Two Examinations shall be held every year, commencing at the same time, for Candidates who are not members of the University.

Examination for First Class Certificates.

All Candidates for the certificate of having passed the more advanced Examination, are hereby required to satisfy the Examiners in reading English aloud, writing from Dictation, English Grammar, English Composition, Elementary Arithmetic, and Elementary Geography.

Each Candidate must satisfy the Examiners also in at least two of the following sections; a fair knowledge of one of the subjects in each section will enable a Candidate to pass in that section:

First Section English.

Any one of the following:—

1. A selection from English History, to be prescribed each year.
2. A selection of English Authors, to be prescribed each year.
3. The Outlines of Political Economy.
4. Geography.

Second Section Languages.

Any one of the following:—

1. Greek. 2. Latin. 3. French. 4. German.

Third Section Mathematical Science.

1. Mathematics, or
2. Mathematics and Mathematical Physics.

Fourth Section—Experimental and Natural Sciences.

Any one of the following:—

1. Experimental Physics.
2. Chemistry.
3. Zoology and Botany.
4. Geology and Mineralogy.

Examination for Second Class Certificates.

All Candidates for the certificate of having passed the second Examination are hereby required to satisfy the Examiners in reading English aloud, writing from Dictation, English Grammar, English Composition, Elementary Arithmetic and Elementary Geography.

Each Candidate is required to satisfy the Examiners also in one of the following:—

1. Greek. 2. Latin. 3. French. 4. Mathematics.

Candidates may also offer themselves for Examination in German, Mechanics, Chemistry, Zoology, or Botany.

The Degree Examinations shall be conducted in the Hall of the University; the other Examinations in such places as the Senate shall from time to time appoint.

APPENDIX.

APPENDIX, No. 1.

Appendix, No. 1.

Queen's College, Belfast, and Queen's University.

Queen's College, Belfast, and Queen's University.

The Queen's College, Belfast, is a Corporation under the name and style of "The President, Vice-President, and Professors of Queen's College, Belfast." It was founded under the provisions of the Act 8 & 9 Victoria, cap. 66, intituled "An Act to enable Her Majesty to endow new Colleges for the Advancement of Learning in Ireland." Under the powers given by this Act, it was determined to found three Colleges. Belfast, Cork, and Galway, were selected as the sites of these Colleges, and on the 30th day of December, 1845, letters patent were issued, incorporating them. The Presidents and Vice-Presidents of the three Colleges were formed into a Board, called "The Board of Queen's Colleges," for the purpose of drawing up the Statutes and arranging the system of education to be pursued in them.

On the 4th of August, 1849, the Professors were appointed, and the Colleges opened for the reception of students on the 30th October, in the same year.

Letters Patent, constituting the Statutes, were issued on the 11th of December, 1849.

The Council of the College.

The President.
The Vice-President.
The Dean of the Literary Division of the Faculty of Arts.
The Dean of the Science Division of the Faculty of Arts.
The Dean of the Faculty of Medicine.
The Dean of the Faculty of Law.

Professors.

Literary Division of the Faculty of Arts.

The Greek Language, . .	Charles MacDouall, LL.D., M.R.A.S.
The Latin Language, . .	Rev. Charles Parsons Reichel, D.D.
History and English Literature,	George Lillie Craik, LL.D.
Modern Languages, . .	Mathias Joseph Frings, Ph.D.
The Celtic Languages, . .	[Vacant.]

Science Division of the Faculty of Arts.

Mathematics, . . .	George Middleton Slesser, M.A., F.C.P.S.
Natural Philosophy, . .	John Stevelly, LL.D.
Chemistry, ...	Thomas Andrews, M.D., F.R.S., M.R.I.A.
Natural History, . . Mineralogy and Geology,	Wyville Thomson, LL.D., F.R.S.E., F.G.S., M.R.I.A.
Logic and Metaphysics, .	Rev. James M'Cosh, LL.D.
Civil Engineering, . .	James Thomson, C.E., A.M.
Agriculture, ...	John F. Hodges, M.D., F.C.S.

Faculty of Medicine.

Anatomy and Physiology, .	Peter Redfern, M.D. Lond. F.R.C.S.
Practice of Medicine, . .	John Creery Ferguson, A.M., M.B.
Practice of Surgery, . .	Alexander Gordon, M.D.
Materia Medica, . . .	James Seaton Reid, M.D.
Midwifery, ...	William Burden, M.D.

Faculty of Law.

English Law, . . .	Echlin Molyneux, A.M.
Jurisprudence and Political Economy, . . .	T. E. Cliffe Leslie, LL.B.

Office Bearers.

Curator of Museum, . .	The Professor of Mineralogy and Geology.
Registrar, ...	Rev. Richard Oulton, A.B.
Librarian, ...	Rev. George Hill.
Bursar, ...	Alexander Dickey, Esq.

DEANS OF RESIDENCES.

United Church of England and Ireland,	Rev. Henry Murphy, A.M.
General Assembly of the Presbyterian Church in Ireland,	Rev. Henry Cooke, D.D., LL.D.
Irish Association of Non-Subscribing Presbyterians,	Rev. John Porter.
Wesleyan Methodists,	Rev. Daniel Macafee.

The students of the College are either Matriculated or Non-matriculated. All the courses for Matriculated students in Arts, including the Departments of Civil Engineering and Agriculture, and also in the Faculties of Medicine and of Law, will be found in the Calendar, which is published annually.

Non-matriculated students, on paying the regulated class fees, and signing an engagement to observe order and discipline in the College, are permitted, without undergoing a preliminary examination, to attend any separate course or courses of lectures; but are not permitted to become candidates for Scholarships or Prizes, or to enjoy other privileges of the Matriculated students.

Students in any of the Faculties can be admitted *ad eundem* from the other Queen's Colleges, or from any University capable of granting degrees.

COLLEGIATE SCHOLARSHIPS.

In the FACULTY OF ARTS—30 Junior Scholarships, of £24 each, are awarded to Undergraduates—15 for Proficiency in Literature, and 15 for Proficiency in Science; also, 7 Senior Scholarships, of £40 each, to Graduates; also, 2 Scholarships, of £20 each, to Engineering, and 4 of £15 each, to Agricultural Students.

In the FACULTY OF MEDICINE—6 Junior Scholarships, of £20 each, and 2 Senior Scholarships, of £40 each, are awarded.

In the FACULTY OF LAW—3 Junior Scholarships, of £20 each, and 1 Senior Scholarship, of £40, are awarded.

SCHOLARSHIPS AWARDED IN THE SEVERAL FACULTIES, 1860–61.

8 Senior Scholarships awarded.
28 Junior Scholarships in Arts awarded.
2 Engineering Scholarships.
2 Agricultural Scholarships.
5 Medical Scholarships.
3 Law Scholarships.

Lapsed—1 Senior Scholarship in Medicine.
,, 1 Senior Law Scholarship.
,, 1 Literary Scholarship of Third Year's Arts.
,, 1 Literary Scholarship of Second Year's Arts.
,, 2 Agricultural Scholarships of Second Year.
,, 1 Medical Scholarship of Second Year.

1861–62.

7 Senior Scholarships awarded.
30 Junior Scholarships in Arts awarded.
2 Engineering Scholarships.
2 Agricultural Scholarships.
5 Medical Scholarships.
4 Law Scholarships.

Lapsed—2 Senior Scholarships in Arts.
,, 2 Agricultural Scholarships of Second Year.
,, 1 Medical Scholarship of Third Year.

By an order of Her Majesty in Council, of 21st May, 1855, applying to the Civil Service, it is ordained that "every person nominated to a junior situation should obtain a certificate of qualification before entering on his duties." The ordinary classes in Queen's College embrace the branches required in this Examination for the Civil Service.

Appendix, No 1.

Queen's College, Belfast, and Queen's University.

Special Courses have been arranged for students intending to become candidates for commissions in the Royal Artillery and Engineers, and for appointments to the Civil Service of India, both of which are now thrown open to public competition.

QUEEN'S UNIVERSITY IN IRELAND.

The charter founding the Queen's University in Ireland received the Royal sanction in the year 1850, and it provides that its Senate should have the power of conferring upon the students of the Queen's Colleges of Belfast, Cork, and Galway, such degrees and distinctions, in the Faculties of Arts, Law, and Physic, as are granted and conferred in other Colleges and Universities of Great Britain and Ireland. It further ordains that any of the students of the three Queen's Colleges, who shall have obtained such degrees in any of the several Faculties of Arts, Medicine, and Law, as shall be conferred by the Chancellor and Senate of the Queen's University, shall be fully possessed of all such rights, privileges, and immunities, as belong to similar degrees granted by other Universities or Colleges, and shall be entitled to whatever rank and precedence is derived from similar degrees granted by other Universities.

By the charter of the Queen's University, candidates for Degrees in Medicine are required to have attended *at least one-third of the Courses of Medical Lectures* in some one of the Queen's Colleges. For the remainder of the Courses of Medical Lectures, authenticated certificates will be received from the Professors or Lecturers in Universities, Colleges, or Schools, recognised by the Senate of the Queen's University in Ireland.

The Chancellor and Senate also have the power of admitting, by special grace, Graduates of other Universities to similar and equal degrees.

In order to obtain a degree or diploma in the Queen's University it is necessary to enter the College as a Matriculated Student, to pass the entrance or Matriculation Examination, and to pursue a fixed course of study.

The Matriculated Students may be classified as follow:—

I. Those intending to proceed to the Degrees of A.B. and A.M.
II. ,, ,, Degree of M.D.
III. ,, ,, Diploma of Elementary Law.
IV. ,, ,, Degrees of LL.B. and LL.D.
V. ,, ,, Diploma of Civil Engineering.
VI. ,, ,, Diploma of Agriculture.

THE SENATE.

Chancellor.—The Right Honorable George William Frederick, Earl of Clarendon, K.G., G.C.B., &c.

Vice-Chancellor.—The Right Hon. Maziere Brady, Lord Chancellor of Ireland, M.R.I.A., &c.

His Grace Richard, Archbishop of Dublin, D.D., M.R.I.A., &c.

The Right Honorable William, Earl of Rosse, K.ST.P., M.R.I.A., &c.

The Right Honorable Thomas Spring, Baron Monteagle of Brandon, M.A., F.R.S., Member of Senate of University of London, Comptroller of the Exchequer.

The Right Honorable Francis Blackburne, Lord Justice in Appeal, LL.D., V.C.T.C.D., M.R.I.A.

The Right Honorable David R. Pigot, Lord Chief Baron of the Exchequer, M.R.I.A., &c.

The Right Honorable Sir Thomas Wyse, K.C.B.

The Rev. P. Shuldham Henry, D.D., President Queen's College, Belfast.

Sir Robert Kane, F.R.S., M.R.I.A., &c., President Queen's College, Cork.

Edward Berwick, Esq., President Queen's College, Galway.

Sir Richard Griffith, Bart., LL.D., M.R.I.A., Commissioner of Public Works.

Dominic J. Corrigan, M.D., M.R.I.A., Physician in Ordinary to the Queen in Ireland.

Major-General Sir Thomas Askow Larcom, R.E., K.C.B., LL.D., F.R.S., M.R.I.A., &c.

James Gibson, A.M., M.R.I.A., Barrister-at-Law.

Robert Andrews, Q.C., LL.D.

The Right Honorable James Henry Monahan, Lord Chief Justice of the Common Pleas.

Robert Adams, A.M., M.D.

Secretary.—G. Johnstone Stoney, M.A.—Office, Dublin Castle.

The Senate holds its sitting in Dublin Castle, where the examinations of the students of the three Colleges, for Graduation and University Exhibitions, are annually conducted by Examiners appointed by the Senate from year to year.

Appendix, No. 2.

Return of Students attending each Class.

APPENDIX, No. 2.

RETURN of the NUMBER of STUDENTS attending each CLASS in the Queen's College, Belfast, in each Year.

CLASS.	SESSION.					
	1849-50	'50-51.	'51-52.	'52-53	'53-54.	'54-55.
Greek—1st year,	71	47	28	16	21	26
,, 2nd ,,	–	27	18	7	11	12
,, Higher,	–	–	–	–	–	–
Latin—1st year,	83	45	27	19	21	24
,, 2nd ,,	–	27	17	6	11	11
,, Higher,	–	–	–	–	–	–
The English Language,	52	48	28	20	24	28
History and English Literature,	–	–	25	15	20	16
Senior ,, ,,						
Modern Languages (French, German, Italian),	62	36	41	27	34	37
Senior ,,	–	20	28	16	15	15
The Celtic Languages,	*The Lectures in each Session open to the Public.*					
Mathematics—1st year,	86	58	40	25	29	33
,, 2nd ,,	–	12	11	11	13	11
,, Higher,	–	–	–	–	–	–
Natural Philosophy—Higher Class,	–	–	–	–	–	6
,, Mathematical Physics, &c.	32	32	46	24	29	23
,, Experimental Physics,	48	59	57	29	40	34
,, Practical Mechanics,	7	3	6	3	4	3
Chemistry,	37	53	63	44	51	60
Practical Chemistry,	6	7	14	10	15	14
Laboratory,	–	6	8	8	9	9
Zoology,	12	34	35	29	31	43
Botany,	12	49	46	35	37	46
Physical Geography,	–	–	29	17	21	19
Logic,	3	–	27	17	21	26
Metaphysics,	–	–	18	15	16	11
Higher Logic and Metaphysics,	–	–	6	7	7	8
Mineralogy and Geology,	*Public.*	6	14	13	15	13
Surveying,	10	9	9	6	6	9
Civil Engineering,	–	4	6	3	4	3
Theory of Agricultnre,	11	8	7	2	6	5
Practice of Agriculture,	–	5	3	2	5	5
Diseases of Farm Animals,	–	5	3	2	5	5
Medical Jurisprudence,	2	8	14	10	13	8
Anatomy,	25	36	48	45	44	51
Practical Anatomy,	27	32	35	49	41	46
Practice of Medicine,	9	17	17	12	15	18
Practice of Surgery,	24	15	26	29	28	30
Materia Medica,	11	14	16	17	17	23
Midwifery,	14	10	12	16	17	18
Law of Property, Equity of Bankruptcy, Common and Criminal Law, Evidence and Pleading,	17	16	17	15	11	5
Jurisprudence and Political Economy, Arts,	–	–	12	2	9	6
Civil Law, Constitutional, Colonial, and International Law, Jurisprudence,	11	11	13	8	10	5
Arabic,	–	–	–	–	–	–
Hindustani,	–	–	–	–	–	–
Sanskrit,	–	–	–	–	–	–

APPENDIX, No. 2—*continued.*

Appendix, No. 2.

Return of Students attending each Class.

RETURN of the NUMBER of STUDENTS attending each CLASS in the Queen's College, Belfast, in each Year—*continued.*

CLASS.	SESSION.						
	'55-56.	'56 57.	'57-58.	'58-59.	'59-60.	'60-61.	'61-62.
Greek—1st year,	29	24	31	36	45	69	81
,, 2nd ,,	14	12	13	17	23	25	49
,, Higher,	–	–	–	5	4	4	7
Latin—1st year,	27	19	33	34	46	69	84
,, 2nd ,,	13	10	11	18	22	23	49
,, Higher,	–	–	–	2	3	2	6
The English Language,	31	24	36	41	49	72	85
History and English Literature, Senior ,, ,,	20	19	20	24	24	28	31
Modern Languages (French, German, Italian),	29	40	40	50	76	140	–
Senior ,,	19	12	16	13	17	10	54
The Celtic Languages,	*The Lec*	*tures in*	*each Ses*	*sion ope*	*n to the*	*Public.*	None.
Mathematics—1st year,	30	35	39	45	61	83	93
,, 2nd ,,	15	17	16	14	13	13	13
,, Higher,	–	–	–	4	6	3	–
Nat. Philosophy—Higher Class,	6	8	7	4	9	–	–
,, Mathematical Physics, &c.	24	19	26	25	24	64	67
,, Experimental Physics,	36	37	41	28	42	87	86
,, Practical Mechanics,	3	2	7	3	4	4	..
Chemistry,	50	70	60	74	81	64*	89
Practical Chemistry,	12	10	11	14	21	21	20
Laboratory,	10	15	10	11	10	12	15
Zoology,	31	43	34	63	56	37*	57
Botany,	36	44	34	62	55	40*	56
Physical Geography,	20	21	28	23	28	30	7‡
Logic,	20	27	22	29	29	35	65
Metaphysics,	17	20	15	19	15	24	22
Higher Logic and Metaphysics,	6	7	9	8	–	..	10
Mineralogy and Geology,	9	20	13	11	16	7†	11
Engineering, 1st year,	4	15	7	7	12	9	10
Engineering, 2nd year,	4	2	7	3	4	4	6
Theory of Agriculture,	5	4	7	7	7	6	6
Practice of Agriculture,	1	1	3	1	4	3	1
Diseases of Farm Animals,	1	1	4	2	3	2	1
Medical Jurisprudence,	10	15	16	13	17	14	18
Anatomy,	44	39	39	59	60	86	81
Practical Anatomy,	53	33	41	44	62	50	87
Practice of Medicine,	33	27	19	22	29	25	42
Practice of Surgery,	48	32	30	29	39	51	53
Materia Medica,	25	11	18	22	27	33	38
Midwifery,	24	13	7	17	14	26	36
Law of Property, Equity of Bankruptcy, Common and Criminal Law, Evidence and Pleading,	10	14	12	13	16	16	14
Jurisprudence and Political Economy, Arts,	8	2	18	9	7	10	8
Civil Law, Constitutional, Colonial, and International Law, Jurisprudence,	9	10	10	11	17	10	12
Arabic,	–	–	–	–	1	–	–
Hindustani,	–	–	–	–	2	3	2
Sanskrit,	–	–	–	–	6	3	4

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* No Arts Students this Session, owing to change of Statutes.
† No Engineering Students this Session, owing to change of Statutes.
‡ Not now required in third year Arts.

APPENDIX,

RETURN of the AMOUNT of FEES received by each

Professor of	1849-50.			1850-51.			1851-52.			1852-53.			1853-54.			1854-55.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Greek,	*88	10	0	83	0	0	50	0	0	27	5	0	38	5	0	46	5	0
Latin,	*73	15	0	79	0	0	50	10	0	31	5	0	38	5	0	44	5	0
English History and Literature,	50	5	0	50	5	0	47	10	0	31	5	0	43	5	0	45	5	0
Logic and Metaphysics,	6	0	0		–		†59	5	0	34	5	0	37	15	0	41	0	0
Mathematics,	116	15	0	97	10	0	89	15	0	43	0	0	54	10	0	59	0	0
Natural Philosophy,	79	5	0	70	15	0	99	10	0	47	0	0	73	15	0	76	15	0
Chemistry, Practical Chemistry,	85	5	0	104	0	0	117	5	0	91	10	0	111	10	0	131	15	0
Anatomy & Physiology, Practical Anatomy,	143	0	0	170	0	0	195	15	0	230	10	0	228	0	0	250	0	0
Natural History and Botany,	20	10	0	69	0	0	70	15	0	50	15	0	55	0	0	76	15	0
Modern Languages,	97	0	0	84	0	0	83	0	0	50	0	0	61	0	0	85	0	0
Mineralogy and Geology,		–		7	10	0	24	15	0	17	15	0	20	15	0	18	0	0
Jurisprudence and Political Economy,	20	0	0	21	0	0	35	15	0	18	15	0	28	0	0	14	10	0
English Law,	32	0	0	29	0	0	37	0	0	23	0	0	20	0	0	16	0	0
Civil Engineering,	16	0	0	24	10	0	22	0	0	14	0	0	17	15	0	21	0	0
Agriculture and Medical Jurisprudence,	15	10	0	41	0	0	49	5	0	22	0	0	46	0	0	32	15	0
Practice of Medicine,	17	0	0	31	0	0	32	0	0	18	0	0	30	0	0	30	0	0
Surgery,	41	0	0	21	10	0	36	0	0	51	0	0	43	0	0	43	0	0
Materia Medica,	22	0	0	28	0	0	26	0	0	29	0	0	33	0	0	43	0	0
Midwifery,	28	0	0	18	0	0	22	0	0	27	0	0	31	0	0	33	0	0
Teacher of Drawing,		–			–			–			–			–			–	

* In the Session of 1849–50, Medical Students were required to attend the Greek and Latin Classes, but have since been exempt from attending either class.

† Professor M'Cosh was appointed in Session 1851–52, and taught and received fees from Students properly belonging to the previous Session.

Queen's College, Belfast, March, 1862.

Appendix No. 4.

Expenditure of One Year's Additional Grant.

APPENDIX,

ACCOUNT of the EXPENDITURE of ONE YEAR'S ADDITIONAL GRANT of

1. Library of Ancient and Modern Literature and Philology:

	£	s.	d.
Ancient Classical Languages and Philology,	69	7	4
English History and Literature,	34	18	7
Foreign Modern Languages,	35	6	8
Works of General Interest, &c.,	165	9	9
	305	2	4

2. Libraries, Museum, &c., Mathematical, Physical, and Chemical Sciences:

	£	s.	d.
Mathematical Library,	39	4	10
Physical Library,	15	15	4
Chemical Library,	21	5	1
Museum and Cabinet of Physical Science,	59	1	0
,, Laboratory, Chemical Science,	51	4	11
	186	11	2

No. 3.

Professor in the Queen's College, Belfast, in each Year.

1855-56.			1856-57.			1857-58.			1858-59.			1859-60.			1860-61.			1861-62.		
£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
51	15	0	44	15	0	51	0	0	78	0	0	*93	5	0	*131	15	0	*186	0	0
47	15	0	39	15	0	53	0	0	67	0	0	†90	0	0	127	15	0	185	0	0
59	5	0	43	15	0	57	10	0	69	0	0	94	15	0	117	5	0	155	10	0
41	15	0	48	5	0	46	15	0	68	10	0	39	0	0	58	10	0	106	5	0
60	10	0	62	15	0	69	10	0	97	10	0	139	10	0	156	0	0	183	5	0
59	10	0	62	15	0	72	0	0	66	10	0	61	5	0	180	10	0	178	15	0
105	10	0	133	0	0	113	10	0	147	5	0	184	0	0	167	0	0	195	15	0
256	0	0	181	0	0	206	0	0	262	10	0	307	0	0	427	10	0	‡429	10	0
59	10	0	56	0	0	52	10	0	105	5	0	94	10	0	70	0	0	96	10	0
74	0	0	86	0	0	96	0	0	120	0	0	159	10	0	277	0	0	319	5	0
12	10	0	37	0	0	20	5	0	21	15	0	24	15	0	11	10	0	16	5	0
29	5	0	22	10	0	31	15	0	28	10	0	36	10	0	28	10	0	25	15	0
21	0	0	27	0	0	21	0	0	25	0	0	28	0	0	28	0	0	25	0	0
13	10	0	27	0	0	22	0	0	22	15	0	24	15	0	32	0	0	40	15	0
26	0	0	25	10	0	40	5	0	31	5	0	47	0	0	43	0	0	§44	0	0
56	0	0	43	10	0	26	0	0	37	0	0	44	0	0	37	0	0	64	10	0
74	0	0	42	10	0	34	0	0	46	0	0	65	10	0	79	13	0	84	12	0
45	0	0	20	0	0	34	0	0	39	0	0	50	0	0	60	6	0	69	0	0
44	0	0	24	0	0	12	0	0	28	0	0	25	0	0	48	0	0	63	0	0
	–		32	0	0	25	0	0	26	0	0	22	0	0		–			–	

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* Besides for Sanskrit and Hindustani for 1859-60, £35; for 1860-61, £22 10*s.*; and for 1861-62, £25.

† Besides for Arabic in 1859-60, £5.

‡ The Professor of Anatomy pays to his Demonstrator a portion of the fees for Practical Anatomy.

§ No endowment for Medical Jurisprudence. Professor Hodges delivers the lectures, receiving only class fees.

ALEXANDER DICKEY, *Bursar.*

No. 4.

Appendix, No. 4.

Expenditure of One Year's Additional Grant.

£1,600, to the Queen's College, Belfast, ending 31st March, 1861.

3. Libraries, Museum, and Collection of Objects of the Department of the Natural Sciences:

	£	*s.*	*d.*
Library of Natural History,	36	0	10
,, Geology and Mineralogy,	5	12	3
Museum of Natural History,	47	12	0
,, Geology and Mineralogy,	77	4	4
,, Materia Medica,	36	12	0
,, Arts,	25	0	0
	228	1	5

4. Libraries, Museums, and Collections of Objects of the Departments of Engineering and Agriculture:

	£	*s.*	*d.*
Library of Engineering,	25	0	11
,, Agriculture,	18	10	3
Instruments and Collections of Engineering,	48	16	3
Collections of Agriculture,	8	3	5
	100	10	10

Appendix, No. 4.

Expenditure of One Year's Additional Grant.

APPENDIX, No. 4—*continued*.

ACCOUNT of the EXPENDITURE of ONE YEAR'S ADDITIONAL GRANT of £1,600, to the Queen's College Belfast, ending 31st March, 1861—*continued*.

	£	s.	d.
5. Museum and Library of Medical Science:			
Library of Medical Works,	50	6	10
Anatomical and Pathological Museums, and Rent of Anatomical Rooms,	125	18	1
Surgical Museum,	22	5	6
Midwifery,	15	10	6
Medical Jurisprudence,	7	15	9
	221	16	8
6. Library of Metaphysical, Legal, and Economical Science:			
Law, Jurisprudence, and Political Economy,	37	4	3
Metaphysics,	37	6	6
	74	10	9
7. Printing, Stationery, Advertising, Postages, Office Expenses, &c.,	317	4	0
8. Heating and Lighting,	167	14	7
9. Botanic Gardens, £50; Grounds, £56 4s. 8d.,	106	4	8
	1,707	16	5
Balance in Bank of Ireland Office, 31st March, 1861,	315	13	11
Total,	2,023	10	4
Amount of One Year's additional Grant,	1,600	0	0
College and Matriculation Fees,	101	15	0
Received for Calendars, Catalogues, &c., sold, and Fines,	15	16	9
Balance in Bank, 31st March, 1860,	305	18	7
Total,	2,023	10	4

The Accounts of the College up to 31st March, 1861, have been examined and found correct, by the Commissioners for Auditing the Public Accounts.

February, 1862.

ALEXANDER DICKEY, *Bursar.*

APPENDIX, No. 5.

General Class Examinations, Queen's College, Belfast.

	Session 1860–61			A.M.	P.M.	Session 1861–62.			A.M	P.M
The English Language,	Saturday,	January	5	—	12—4	Saturday,	January	11	—	12—4
Logic,	Saturday,	February	16	9—12	—	Saturday,	February	16	9—12	—
Zoology,	Monday,	March	25	9—12	—	Friday,	February	28	9—12	—
Metaphysics,	Tuesday,	March	26	9—12	and 2—5	Tuesday,	April	15	9—12	and 2—5
Physical Geography,	Wednesday,	March	27	9—12	—	Wednesday,	April	16	9—12	—
Mineralogy and Geology,	Wednesday,	March	27	—	2—5	Wednesday,	April	16	—	2—5
History and English Literature,	Thursday,	March	28	9—12	and 2—5	Thursday,	April	17	9—12	and 2—5
Midwifery,	Friday,	April	26	9—12	—	Saturday,	April	26	9—16	—
Practice of Medicine,	Friday,	April	26	—	2—5	Saturday,	April	26	—	2—5
Anatomy and Physiology,	Saturday,	April	27	9—12	and 2—5	Monday,	April	28	9—12	and 2—5
Practical Anatomy,	Monday,	April	29	9—12	—	Tuesday,	April	29	9—12	—
Practice of Surgery,	Monday,	April	28	—	2—5	Tuesday,	April	26	—	—
Materia Medica,	Tuesday,	April	30	9—12	—	Wednesday,	April	30	9—12	—
Medical Jurisprudence,	Tuesday,	April	30	—	2—5	Wednesday,	April	30	—	2—5
Practical Chemistry,	Monday,	April	22	6—12	—	—	—		—	—
Greek (First Year),	Thursday,	May	30	6—12	and 2—5	Thursday,	June	5	9—12	and 2—5
,, (Second Year),	Friday,	May	31	9—12	,, 2—5	Friday,	June	6	9—12	,, 2—5
Latin (First Year),	Friday,	May	31	9—12	,, 2—5	Friday,	June	6	9—12	,, 2—5
,, (Second Year),	Thursday,	May	30	9—12	,, 2—5	Thursday,	June	5	9—12	,, 2—5
Natural Philosophy,	Friday,	May	31	9—12	,, 2—5	Friday,	June	6	9—16	,, 2—5
Surveying,	Friday,	May	31	9—12	—	Friday,	June	6	9—12	—
Mathematics (First Year),	Saturday,	June	1	9—12	and 2—5	Saturday,	June	7	9—12	and 2—5
,, (Second Year),	Saturday,	June	1	9—12	,, 2—5	Saturday,	June	7	9—12	,, 2—5
,, ,,	Monday,	June	3	9—12	—	Monday,	June	6	9—12	—
Modern Languages,	Monday,	June	3	9—12	and 2—5	Monday,	June	6	9—12	and 2—5
Chemistry,	Tuesday,	June	4	9—12	,, 2—5	Tuesday,	June	10	9—12	,, 2—5
Botany,	Wednesday,	June	5	9—12	—	Tuesday,	June	10	9—12	—
Civil Engineering,	Wednesday,	June	6	9—12	—	Tuesday,	June	10	9—12	—
Practice of Agriculture,	Wednesday,	June	5	9—12	— }	Tuesday,	June	10	9—12	—
Diseases of Farm Animals,	Wednesday,	June	6	9—12	— }					
Theory of Agriculture,	Wednesday,	June	5	—	2—5 }					

General Examination of Students in Law, and also of Students in the Faculty of Arts, in Jurisprudence, and Political Economy, at the close of the Lectures on these subjects.

Appendix, No. 6.

Lectures delivered by Professors.

APPENDIX, No. 6

RETURN *of the* NUMBER *of* LECTURES *delivered by each Professor in the Queen's College, Belfast, in each* YEAR.

	1849-50	'50-51.	'51-52.	'52-53	'53-54.	'54-55.	'55-56.	'56-57.	'57-58	'58-59.	'59-60.	'60-61.	REMARKS.
Professor of— Greek, . . .	135	232	244	246	236	240	234	233	236	350	500*	460	In addition, examining about 300 exercises each session.
Latin, . . .	166	197	215	221	169	196	232	230	230	275	698	234	Do. do.
History and English Literature, . .	35	55	56	61	104	100	105	105	99	110	123	92	Besides about 500 exercises.
Modern Languages, .	206	630	624	307	306	305	316	340	369	307	340	372	
Celtic, . . .	6	6	6	6	6	6	6	6	6	6	5	6	Open to the Public without charge.
Mathematics, . .	135	256	333	248	246	330	346	322	330	400	400	370	Besides two hours each week on which the Senior Scholar meets the Junior Division.
Natural Philosophy, .	122	257	233	203	256	250	253	307	300	360	242	242	
Chemistry, . . .	134	136	137	129	132	130	138	142	142	140	132	132	In addition, superintending the working pupils, of whom from eight to twelve are admitted each year by examination to the laboratory without charge.
Practical Chemistry, .	36	39	36	36	36	36	36	36	34	36	36	36	
Natural History, . .	120	120	133	137	156	136	142	140	143	140	140	140	Including lectures in Physical Geography, delivered free to all students.
Mineralogy and Geology,	*Public.*	86	54	59	54	55	49	50	52	52	52	52	In addition, daily attendance as Curator in the Museum.

Logic and Metaphysics,	–	–	76	142	176	175	164	177	179	167	140	159	In addition, criticising above 250 Essays in each session, and in most sessions keeping a Higher Class, to which 60 Lectures are delivered.
Civil Engineering,	134	138	140	136	140	136	147	118	100	194	196	220	Including practical work under the direction of the Professor.
Agriculture,	172	206	205	212	209	213	218	186	190	196	166	150	Including lectures on Medical Jurisprudence and Diseases of Farm Animals, for neither of which there is any salary; in addition, practical excursions with students.
Anatomy & Physiology,	115	116	115	115	114	115	117	116	116	115	115	112	In addition, superintending the class of Practical Anatomy and Demonstrations and Dissections.
Practice of Medicine,	93	93	92	92	93	94	94	85	75	90	95	95	
Practice of Surgery,	93	94	93	91	91	92	94	94	94	94	94	94	Besides about twenty-five lectures each session on Operative Surgery.
Materia Medica,	92	91	91	93	90	90	92	80	84	84	84	84	
Midwifery,	92	92	92	91	90	96	93	93	93	95	90	90	Besides practical instruction to students which may be required at any hour throughout the year.
English Law,	24	48	72	96	96	96	96	96	96	96	72	72	No third year Class in 1859-60, or fourth year Class in 1860-61.
Jurisprudence and Political Economy,	24	48	96	120	120	120	120	120	120	96	120	120	

* Including about 116 on Sanskrit and Hindustani.

The above Return gives the number of Meetings of one hour each, in each Class. The system of instruction includes, not merely formal Lectures, but also examination in the business of the course; in some classes these examinations are held daily; in others on fixed days of the week, according to the nature of the subject.

The Professors also conduct the General Scholarship Examinations; and some of them in addition, the Matriculation and Supplemental Examinations.

Appendix No. 6. — Lectures delivered by Professors.

October Examinations of Queen's College, Belfast, 1861.

Days.	Hours.	First Year Students.	Second Year Students.	Third Year Students.	Fourth Year Students.
Tuesday, Oct. 21.	9—12		Suppl Ex. { English. Mod. Lang. Math.	Suppl. Ex.—Chem., Math.	Senior Schol.—Latin.
	2—5		Suppl Ex.—Greek—Latin.	Suppl Ex.—Greek, Latin, Nat. Hist., Logic.	Senior Schol.—Latin.
Wednesday, Oct. 22.	9—12		Liter Schol —Greek.	University Preliminary Examination.	Senior Schol.—Greek.
	2—5		Liter Schol.—Greek		Senior Schol.—Greek.
Thursday, Oct. 23.	9—12		Med. Engin. Agric. } Schol.—Chem.		Senior Schol.—Chem.
	2—5	Matric.—Math.	Med Engin. Agric. } Schol.—Chem.		Senior Schol.—Chem.
Friday, Oct. 24	9—12	Matric.—Greek, Latin.	Liter Schol —Mod Lang.		Senior Schol.—Mod Lang.
	2—5		Liter. Schol —Mod. Lang		Senior Schol.—Mod. Lang.
Saturday, Oct. 25.	9—12	Matric.—English.	Liter. Schol —Latin. Engin. Schol —Geo. Draw.		Senior Schol —Mod. Hist.
	2—5	Matric.—English	Liter Schol.—Latin. Engin. Schol.—Geo Draw.		Senior Schol —Mod. Hist.

Monday, Oct. 27.	9—12		Med. Agric. } Schol.—Botany.	Sci. Schol.—Math.	Senior Schol.—Nat. Hist.
	2—5	Lists of Matriculated Students to be made out.	Liter Schol.—English. Agric. Med. } Schol.—Zoology	Sci. Schol.—Math.	Senior Schol.—Nat. Hist.
Tuesday, Oct. 28	9—12	Science Med Engin. } Schol.—Math. Agric Schol.—Arith	Science Engin. } Schol.—Math.	Sci. Schol.—Logic.	Senior Schol.—Math
	2—5	Science Med Engin. } Schol.—Math.	Science Engin. } Schol.—Math. Med. Schol.—Anat. and Phy	Liter Schol.—Latin. Med. Schol.—Anat and Phy.	Senior Schol.—Math Med. Schol.—Pr of Midw
Wednesday, Oct. 29	9—12		Agric Schol—Agriculture.	Liter. Schol.—Mod. Lang Med. Schol—Prac. Chem.	Senior Schol.—Nat. Phil. Med. Schol.—Pr of Med.
	2—5	Liter Med. Agric. } Schol.—English.	Engin. Schol.—Exp. Phys.	Sci. Schol—Nat. Phil Liter Schol.—Mod. Lang.	Senior Schol.—Nat. Phil.
Thursday, Oct. 30	9—12	Liter. Med. } Schol.—Greek.		Liter Schol.—Greek. Med. Schol.—Mat Med.	Senior Schol.—Pol. Econ. Med. Schol.—Med. Juris.
	2—5	Liter. Med. } Schol.—Latin.		Liter Schol.—Latin.	Senior Schol.—Pol Econ. Med. Schol.—Surg. Anat.
Friday, Oct. 31.	9—12	Liter. Med. } Schol.—Latin.			Senior Schol.—Metaph. Med. Schol.—Anatomy.
	2—5	Liter Med. } Schol.—Greek.		Liter Schol.—Greek.	Senior Schol.—Metaph. Med. Schol.—Physiology.

Students passing the Supplementary Examinations complete the previous year, and take rank accordingly.

HOURS of LECTURES, Queen's College, Belfast,—SESSION 1861–62.

Hours.	Arts.			Civil Engineering.		Agriculture.		Medicine and Law.
	1st Year.	2nd Year.	3rd Year	1st Year.	2nd Year.	1st Year.	2nd Year.	
9 till 10	*French.* Monday Wednesday Thursday *German.* Tuesday Friday	*Mathematics.* Monday Tuesday Wednesday Thursday Friday		*French.* Monday Wednesday Thursday *German* Tuesday Friday	*Mathematics.* Monday Tuesday Wednesday Thursday Friday			
10 till 11	*Mathematics.* Monday Tuesday Wednesday Thursday Friday	*French.* Monday Wednesday Thursday *German.* Tuesday Friday		*Mathematics.* Monday Tuesday Wednesday Thursday Friday				*Evidence and Pleading.* Tuesday Thursday Saturday
11 till 12	*Latin.* Monday Wednesday Friday	*Greek.* Monday Thursday Friday	*Metaphysics.* Tuesday Wednesday Thursday Friday *History.* Monday Wednesday Friday		*Min. Geol. and Ph. Geog* Monday Wednesday Friday *Civil Eng* Tuesday Thursday Saturday		*Min., Geol., & Ph. Geog* Monday Wednesday *Surveying* Saturday *Pr. of Agri. & Dis. F. Anim.* Tuesday Thursday	*Prac. Chem.* Tuesday, Thursday 10-30 till 11-30 Saturday 11 till 12 *Com. & Crim. Law.* Tuesday Thursday Saturday
12 till 1	*Greek.* Monday Thursday Friday	*Latin.* Monday Wednesday Friday	*Eng Lit* Monday Wednesday Friday	*Geo Drawn. and Office Work* Tuesday Thursday	*Office and Field Work.* Tuesday Thursday Saturday	*Theo of Agri* Tuesday Thursday	*Surveying* Saturday	*Mat. Med.* Saturday *Practical Anatomy.* Monday, Tuesday, Wednesday, Thursday, Friday 11-45 till 12-45
1 till 2	*English.* Monday Tuesday Wednesday Friday	*Exp. Phys.* Monday Wednesday Friday *Mat Phys* Tuesday Thursday	*Zool. and Bot.* Monday Wednesday Friday	*Exp Phys.* Monday Wednesday Friday *Geo Drawn.& Off* Tuesday Thursday	*Mat. Phys* Tuesday Thursday *Office and Field Work.* Saturday	*Zool. and Bot.* Tuesday Wednesday Friday	*Ex. Physics* Monday Wednesday Friday *Surveying.* Saturday	*Zoology and Botany* Monday Wednesday Friday *Ex. Phys.* Monday Wednesday Friday

2 till 3		*Logic* Tuesday Wednesday Thursday Friday	*Pol. Econ.* Tuesday Thursday Friday						*Anatomy and Physiology.* Monday Tuesday Wednesday Thursday Friday	
3 till 4			*Chemistry* Monday Tuesday Wednesday Thursday Friday	*Chemistry.* Monday Tuesday Wednesday Thursday Friday		*Chemistry.* Monday Tuesday Wednesday Thursday Friday		*Midwifery* Monday Tuesday Thursday Friday	*Chemistry* Monday Tuesday Wednesday Thursday Friday	*Med. Juris.* Wednesday Saturday
4 till 5			Chemical Laboratory, open from 9 A.M. till 3 P.M.					*French.* Monday Thursday	*Pr. of Med.* Monday Tuesday Wednesday Thursday	*Mat. Med.* Friday
5 till 6								*Surgery.* Wednesday Thursday Friday Saturday	*Materia Medica.* Monday Tuesday	*Equity & Bank.* Monday Wednesday Friday
6 till 7								*Civil Law* Monday Wednesday Friday		*Law of Prop.* Monday Wednesday Friday
7½ till 8½			*Jurisprud.* Monday Wednesday Friday						*Jurisprudence.* Monday Wednesday Friday	
8½ till 9½									*Cons. & Col. Law* Monday Wednesday Friday	

Hours of Lectures, Queen's College, Belfast,—Session 1862–63

Hours.	Arts.			Civil Engineering.			Agriculture.		Medicine.			
	1st Year.	2nd Year.	3rd Year.	1st Year	2nd Year.	3rd Year	1st Year	2nd Year	1st Year.	2nd Year	3rd Year	4th Year.
9 till 10	*Mathematics* Monday Tuesday Wednesday Thursday Friday	*French.* Monday Wednesday Thursday *German.* Tuesday Friday	*Zool. to Mar. 1.* Monday Tuesday Wednesday Friday *Bot. from Mar. 1* Monday Tuesday Wednesday Thursday Friday	*Mathematics.* Monday Tuesday Wednesday Thursday Friday			*Zoology and Botany.* Monday Tuesday Wednesday Thurs. (*Bot.*) Friday		*Zool. to Mar. 1* Monday Tuesday Wednesday Friday *Bot. from Mar. 1* Monday Tuesday Wednesday Thursday Friday			
10 till 11	*French.* Monday Wednesday Thursday *German.* Tuesday Friday	*Mathematics.* Monday Tuesday Wednesday Thursday Friday	*Chemistry* Monday Tuesday Wednesday Thursday Friday	*Chemistry* Monday Tuesday Wednesday Thursday Friday	*Mathematics* Monday Tuesday Wednesday Thursday Friday		*Chemistry.* Monday Tuesday Wednesday Thursday Friday		*Chemistry* Monday Tuesday Wednesday Thursday Friday			
11 till 12	*English.* Monday Tuesday Wednesday Friday	*Nat. Philos. Exp. Phys* Monday Wednesday Friday *Mat. Phys* Tuesday Thursday	*Honor Classes*	*Exp. Phys.* Monday Wednesday Friday *Geometry, Drawing, & Office Work.* Tuesday Thursday	*Mineralogy and Geology* Monday Wednesday Friday *Mat. Phys.* Tuesday Thursday	*Civil and Mech. Eng.* Monday Wednesday *Office and Field Work.* Tuesday Thursday	*Exp. Phys* Monday Wednesday Friday *Theor. Agric.* Tuesday Thursday	*Mineralogy and Geology* Monday Wednesday Friday *Survey, &c.* Saturday	*Practical Anatomy* Monday Tuesday Wednesday Thursday Friday	*Exp. Phys Nov. to Feb.* Monday Wednesday Friday *Prac. Chem.* Monday Tuesday Wednesday Thursday Friday	*Practical Anatomy* Monday Tuesday Wednesday Thursday Friday	
12 till 1	*Greek.* Monday Thursday Friday	*Latin.* Monday Wednesday Friday	*Metaphysics* Tuesday Wednesday Thursday Friday *History.* Monday Wednesday Friday	*Geometry, Drawing & Office Work* Tuesday Thursday	*Civil Engineering.* Monday Wednesday *Office and Field Work.* Tuesday Thursday	*Office and Field Work* Tuesday Thursday		*Survey, &c.* Saturday	Dissections.		Dissections.	*Medical Jurisprud.* Tuesday Thursday

1 till 2	*Latin.* Monday Wednesday Friday	*Greek.* Monday Thursday Friday	*Eng Literat.* Monday Wednesday Friday			*Nat Philos applied* Monday Wednesday		*Survey, &c.* Saturday	Dissections.		Dissections.	
2 till 3		*Logic.* Tuesday Wednesday Thursday Friday	*Pol Economy.* Tuesday Thursday Friday		Field Work and Engineering Excursions for 2nd and 3rd Year Students occasionally on Fridays and Saturdays.			*Prac. of Agri. and His Farm Anim.* Tuesday Thursday	*Anat. and Physiology.* Monday Tuesday Wednesday Thursday Friday		*Anat and Physiology* Monday Tuesday Wednesday Thursday Friday	
3 till 4				*French* Monday Thursday					*French* Monday Thursday		*Midwifery* Monday Tuesday Wednesday Thursday	*Surgery* Monday Tuesday Wednesday Thursday
4 till 5			Chemical Laboratory open from 9 A.M. till 3 P.M.							*Materia Med* Monday Tuesday Wednesday Thursday	*Prac Med* Monday Tuesday Wednesday Thursday	
7			*Jurisprud.* Monday Wednesday Friday]						Students wishing to attend Anatomical Demonstrations in the Second Year may postpone Experimental Physics and Practical Chemistry till the Third Year.			

FACULTY OF LAW.—HOURS OF LECTURES.

1st Year.				2nd Year.				3rd Year.		4th Year.					
6 o'clock, P.M.	*Law of Property* Monday Wednesday Friday	7 o'clock, P.M.	*Jurisprudence.* Monday Wednesday Friday	5 o'clock, P.M.	*Equity and Bankruptcy.* Monday Wednesday Friday	8 o'clock, P.M.	*Civil Law* Monday Wednesday Friday	11 o'clock, A.M.	*Common and Criminal Law* Tuesday Thursday Saturday	10 o'clock, A.M.	*Evidence and Pleading* Tuesday Thursday Saturday	1 o'clock, P.M.	*Constitutional & Colonial Law* Monday Wednesday Friday	12 o'clock, noon.	*Medical Jurisprudence.* Tuesday Thursday

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APPENDIX, No. 7.

Digest of Subjects and Courses.

An Enlarged Digest of Subjects and Courses pursued in Queen's College, Belfast.

Greek—*Professor, Charles MacDouall*, LL.D., M.R.A.S.

In the Greek Class, as in all those which are attended during more than one session, the business, as well as the hours assigned to the Students of the different years, is necessarily different; but it is always distributed into three simultaneous processes, viz., public examinations, lectures more or less formal, and exercises written at home and commented on in the class.

In the first session, the complex and self-contained structure of the Greek language is subjected to a close analysis; carried out, on the one hand, by tracing words to their crude forms, by classifying terminations, both the primary and the flexional, and by discriminating among analogically correct forms those actually used in different ages and dialects; on the other hand, by exhibiting the methods by which words are combined in simple clauses, clauses are knit into sentences, and sentences compose periods less or more complicated. Some prose-work furnishes the materials for this analysis; while the Students read and translate it, or else re-translate off-hand passages read out in English before them by the Professor. Besides syntactical phænomena, the laws and characteristics of both epic and dramatic versification are expounded and exemplified, while a portion of the *Ilias* and some tragedy are used as text-books.

In the second session, while consecutive passages of Herodotus along with some Attic oration or philosophical treatise, and a book of the *Odysseia* along with some Attic tragedy or comedy, form the basis of prelections, the previous discipline is continued and extended; the distinctions of dialect and style are more fully elucidated; the origin, growth, and fortunes of the epos, the drama, history, and other departments of literature, are more distinctly unfolded; discussions on points of mythology, geography, chronology, archæology, æsthetics, &c., are more freely introduced and more amply treated. The Students are required to turn Herodotean Greek, at sight, into Attic, altering both the forms of words and the structure of sentences; to re-translate passages into Greek prose and verse; and also to give in original essays in both forms of composition.

Considering the variety of subjects which enter simultaneously into the first and second Sessions of the Collegiate Course, the Students generally appear to give a fair share of their attention to the Greek Language and Literature. Several times in the week a considerable number voluntarily attend extra Lectures, at which no note is taken of their presence or of their absence.

In a distinct or higher class, advanced Students, generally in the third or fourth year of their Course, are exercised in the study of more difficult works than those previously read, in the higher problems of criticism and philology, and especially in composing both prose and verse.

The following text-books have been used in the successive Sessions of College from 1849–50 to 1861–62:—*Ilias*, Books III., VI., X., XI., XII., XIII., XIV., XV., XVI., XVIII., XXI., XXII., XXIV.; *Odysseia*, Books I., XI.; Hesiodus, *Theogonia*; Pindarus, *Olympia*, *Pythia.*, *Nemea*; Aeschylus, *Prometheus Vinctus*, *Septem c. Thebas*, *Agamemnon*, *Choëphoroi*, *Eumenides*; Sophocles, *Antigone*, *Oedipus Coloneus*, *Electra*, *Aias*, *Trachiniae*, *Philoctetes*; Euripides, *Alcestis*, *Hippolytus*, *Hecabe*, *Phoenissae*, *Bacchae*, *Ion*, *Iphigeneia in Aulide*, *Iphigeneia in Tauris*; Aristophanes, *Nubes*, *Aves*, *Ranae*; Herodotus, Books I., II., IV.; Thucydides, Books I., II.; Xenophon, Portions of *Anabasis* and *Cyropaedeia*; Platon, *Apologia Socratis*, *Gorgias*, *Phaedon*, *Phaedrus*, *Timaeus*; Aristoteles, *Poetica* and Portions of *Rhetorica*; Demosthenes, *c. Meidiam*, and *de Corona*; Aeschines, *in Ctesiphontem*.

Sanskrit and Hindustani.

The Classes for these Languages (conducted by the Professor of Greek) are at present attended by Students who either have already obtained, or are preparing to compete for, Appointments in the Indian Service. As the importance of some

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Digest of Subjects and Courses.

practical acquaintance with Sanskrit, especially in relation to Classical Studies and to Comparative Philology, is now generally recognised, the Sanskrit Class will doubtless be frequented hereafter by others also who can spare the time and attention which it requires.

Either Class may be attended separately; or a two years' Course may be taken, in which Sanskrit alone is studied during the first year, and Sanskrit, with Hindustani (including the elements of Persic), occupy the second.

LATIN—*Professor, Charles Parsons Reichel*, D.D.

The Course read in the Latin Classes during the Session of 1860–61, was—

Senior Class.—Tacitus, Agricola; Cicero de Natura Deorum; Juvenal.

Junior Class—Terence, Adelphi; Plautus, Trinummus; Cicero ad Atticum.

The Junior Class is that composed of Students of the *First Year;* the Senior, that composed of Students of the *Second Year.*

The Professor, therefore, has each set of Students only two years, at most, under his care; no attendance on Lectures in Latin or Greek being required of Students in their Third Year.

The Professor requires the Class to prepare for each Lecture a certain portion of the authors in course of being read. The Professor sometimes translates to the Class, sometimes requires them to translate aloud, making such corrections and observations as may be necessary fully to explain the passage, and to throw light on the idiom of the author, and the structure and analogy of the language.

Besides this, full statements of the historical and legal points involved in the authors read, are furnished by him.

A Composition Class was held once a-week for the Senior, and twice a-week for the Junior Class, attendance at which is voluntary.

An advanced Latin Class has been formed during the last four Sessions, attended by Students of the third or fourth year, who may wish to carry on the study of the Latin language beyond the point at which the prescribed course leaves them. This Class cannot be numerously attended, as the time of Students of the Third Year is so much taken up with their prescribed Courses in other branches, that those who attend it have to do so under the greatest difficulty; and probably nothing but the impossibility of successfully competing with Students from other Universities, without a greater knowledge of Latin than the regular College Course will enable them to acquire, has induced any Students to attend it.

The Professor is happy in adding that the deficiencies in the Classical Departments of the Library and Museum are being remedied.

HISTORY AND ENGLISH LITERATURE—*Professor, George Lillie Craik*, LL.D.

The Professor of History and English Literature has hitherto two Classes: one entitled the Class of the English Language, which is taught for one Term, and is attended, according to the Curriculum for Degrees in Arts, by Students of the First Year; the other entitled the Class of English Literature, taught for two Terms, and attended by Students of the Third Year.

It is important to observe, that by this arrangement there is added, to the two distinct subjects which are combined in the designation of the chair, a third subject perfectly distinct from either; each of the three, at the same time, like every other great department of human knowledge and speculation, having several subdivisions.

I. The Class of the English Language is taught by means of—

1. A Course of Lectures on the origin, history, and constitution of the language, and on the principles of Universal Grammar.
2. Examinations on a printed text-book, prepared by the Professor, entitled, "Outlines of the History of the English Language."
3. Exercises in Composition, both in prose and verse; and
4. A Course of Critical Readings, directed more especially to the philology of the language, both in its principles and in its details.

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The business of the Class, thus conducted, may be stated to comprehend the subjects of Universal Grammar, or the Philosophy of Language generally, with the elements of Comparative Grammar and of Linguistic Ethnology, the Philology of the English Language, and the Practice of English Composition.

II. In the Class of History and of English Literature, the teaching of History has hitherto embraced the Outlines of Historical Geography; the Elements of Chronology; a Sketch of the General History of the World; a Course of Lectures on the Science of Historical Investigation; and a minute survey, by way of illustration, of various portions of the History of England, including the progress of the constitution and of society, as well as the course of public events and transactions, with special reference to the original authorities, and to the bibliography of the subject. No text-book has been used, but examinations are regularly held, the Students being left to collect the facts necessary to be remembered from the Lectures, and from any of the common histories.

The subject of English Literature is treated both historically and in reference to the principles of æsthetic and critical science. For the history of our literature, a work of the Professor's, entitled "Sketches of the History of Literature and Learning in England," is employed as a text-book; and a Course of Lectures is delivered on the subject of Literature as one of the forms of the Artistic. There are regular examinations both on the text-book and on the Lectures; and essays, or other exercises in writing, are exacted throughout this part of the Course.

Under the New Regulations of the University, the Class of English Literature is now converted into a Class of English Literature and the English Language, and a separate Class of History is taught for two Terms.

MODERN LANGUAGES.—*Professor, Mathias Joseph Frings*, PH.D.

The foreign Modern Languages taught up to the present day are French, German, and Italian. The students generally select the former for their College Course; one-fourth of the Class, on an average, however, take up both languages; few take German alone.

The mechanism and peculiarities of the respective languages are carefully illustrated by the Professor, who is unremittingly endeavouring to enable the Students to think in that language which they are pursuing. To effect this, the Students are made to translate more frequently from their mother tongue into the one to be acquired than *vice versâ*, and orally return, without delay, in French or German, any sentence that may be proposed in English.

The Professor also occasionally delivers a Lecture on the History of French or German Literature, or Language. On all these topics the Students are frequently examined.

The books recommended are, plays from Göthe, Schiller, Wieland; from Corneille, Racine, and Molière; Dante, Goldoni, Manzoni; also historical writings in both languages. Some one of these books is critically read aloud once a-week, by the Students, and turned by them into English.

The result of these proceedings, considering the very short time allowed, has generally proved satisfactory. At the end of the Session the Students, who, almost all, began, as it were, with A, B, C, were able to translate tolerably well an easy French, Italian, or German author, and also generally made a good attempt at turning the English into the Modern Language. They were also pretty well acquainted with the leading features of the history of that language which they have been pursuing, and satisfactorily answered the principal questions of its grammar.

The Students attending to the Modern Languages during one Session only, and beginning, so to say, at the very foot of the hill, have, unfortunately, no time left to enter the field for Comparative Grammar.

Also, three Courses for Senior Students who are required to attend a more extended course for the Degree of A.M., are delivered in German, French, and Italian.

There is an Evening Course for Medical Students who are not able to attend the Course for the Students of Arts.

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MATHEMATICS—*Professor, George M. Slesser*, M.A., F.C.P.S.

Digest of Subjects and Courses.

Attendance on this Class is prescribed to all Students in the Faculty of Arts during the first year of their Course; during the second year they are required to attend either a higher Course of Mathematics, or of Latin and Greek.

All Students in the Department of Engineering are required to attend the Mathematical Classes during two years.

Before entering, Students are required to pass an examination in the First and Second Books of Euclid, and in a small portion of Algebra. Practically they are generally well prepared in the prescribed portions of Euclid, while, on the contrary, it has been necessary, with a large portion of the Class, to commence the instruction in Algebra from the very beginning. A considerable number of the Students are Candidates for Mathematical Scholarships at entrance, and these are generally well prepared in the first six Books of Euclid, and a considerable portion of Algebra and Plane Trigonometry.

On this account the instruction of the First Year in Mathematics has been given in two Divisions. The Lower Division has been carefully taken through such portions of Euclid I., II., III., IV., VI., as they had not previously prepared, and has received instructions in Algebra as far as the progressions, and in Plane Trigonometry as far as the solution of triangles, with the use of logarithms and trigonometrical tables. The instruction of the Upper Division comprises a complete Course of Algebra and Trigonometry, with the principal historical properties of the Conic Sections, treated geometrically.

The Council has sanctioned the employment of the Senior Mathematical Scholar in giving a portion of the instruction of the Lower Division. This arrangement, while it affords a greater number of hours to the Lower Division, enables the Professor of Mathematics to give more attention to the Upper Division, and has been found to work very satisfactorily.

In the Second Year the subjects of Lecture are Analytical Geometry, the Differential and Integral Calculus, and the first three sections of the Principia of Newton; and, in addition to this, when the progress of the Students has been sufficiently rapid during the early part of the Session, the solution of the simpler kinds of Differential Equations, and the principles of Analytical Geometry of Three Dimensions. Spherical Trigonometry and the Theory of Equations are not included in the subjects of Lecture, but are required from the Candidates for Science Scholarships of the Third Year.

The instruction is carried on in great part by questions, which the Students are required to work out at the time, under the eye of the Professor, the questions having reference to those portions of the subject which have just been treated in the Lectures. The Professor then corrects their work, and gives such hints and explanations as are requisite.

During the last two Sessions, at the request of a few advanced Students, a third and higher class has been formed. The subjects of lecture have been Geometry of three dimensions, Finite Differences, Calculus of Functions, Calculus of Variations, and extended courses of Definite Integrals, Differential Equations, and Theory of Probabilities.

THE PHYSICAL CLASSES—*Professor, John Stevelly*, LL.D.

The subjects taught in the Physical Classes are distributed under three subdivisions: Mathematical Physics, Experimental Physics, and Natural Philosophy applied.

The subjects comprised in the Course of Mathematical Physics are—Mechanics (under its several statical and dynamical subdivisions), Hydrostatics, Hydraulics, Pneumatics, Acoustics, Optics, and Astronomy. The Students who attend this class are the Matriculated Students who are seeking a Degree in Arts, the Engineering Students of the Second Year, and Non-Matriculated Students, some of whom are Candidates for the ministry in the Presbyterian Churches. Attendance at the Lectures three days in each week is imperative on all those Students, and one hour in each week is occasionally employed in asking questions from prescribed parts of Galbraith and Haughton's Manual.

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Two days in the week attendance is optional, when Analytical Mechanics and the higher branches of Physics are taught. In the Lectures, attendance on which is imperative, such mathematical proofs and illustrations only are introduced as a person reasonably prepared in the six first Books of Euclid and Elementary Algebra might easily comprehend. The teaching is by prelection; and although no text-books are prescribed, the ordinary elementary works on the several subjects are pointed out and referred to. At the Lectures, attendance on which is voluntary, the demonstrations and investigations are pursued in a more systematic and mathematical method, so as to require a knowledge of Analytic Geometry, Conic Sections, and the Differential and Integral Calculus. Text-books are used for the guidance of the Students attending these Lectures, who are chiefly those who are intending to compete for Honors. These text-books are Earnshaw's and Todhunter's Statics, Wilson's Dynamics, Tait's Dynamics of a Particle, Miller's Hydrostatics, Lloyd's Optics and lectures on the wave theory of light, Herschell's Astronomy, and two of Airy's Tracts, with occasional reference to Du Hamel's Cours de Mecanique, and to Poisson's Works.

The Class of Experimental Physics is attended by the same Students, and also by Agricultural Students of the Second Year, and by Medical Students of the Third Year. The subjects of these Lectures are taught entirely without mathematical demonstration, by the aid of experiments, illustrations, drawings, and models, and such works as Lardner's Hand-book, Golding Bird's Physics, Webster's Physics, Miller's Chemistry, Vol. I., Arnott's Elements, Biot, Ganot, Pouillet, Peschel, and such like standard works are referred to, and recommended to the attention of the Students. The subjects of Heat, Electricity, and Electro-Magnetism are at present chiefly taught in the Chemical Class; but the leading facts and principles are taught by selections from Biot, Pouillet, Ganot, and Miller.

The Class of Natural Philosophy applied is intended for Students in Engineering of the Third Year, by the recent University Ordinance; lectures and instructions twice in the week. The subjects embraced are the nature and estimate of work done; the kinds of work required to be done; the nature and laws of friction, and other useless resistances; the moving powers at our command, their respective nature and the laws which govern their action; the manner in which they are, by machinery, connected with and opposed to the resistances; the construction of machines; the principles of strength of materials as opposed to strains; the equilibrium of structures, frames, roofs, arches, domes; the general principles of mechanism; general maxims in the structure and working of machines; maximum effects of machines; hydraulic engines; the steam engine. The works used as guides to the studies of the Students in this Class are selections from Lloyd's and Robinson's Mechanics, Willis's Principles of Mechanism, Barlow on Materials and Construction. Hodgkinson's Experimental Researches, Tredgold, Tate's Elementary Treatises and Exercises, and selected numbers of Weale's Rudimentary Series.

CHEMISTRY—*Professor, Thomas Andrews*, M.D., F.R.S., M.R.I.A.

In the Class of Chemistry the greater part of the Course is devoted to pure Chemistry; but the Elements of the Sciences of Heat and Electricity, particularly in their relations with Chemistry Proper, are also taught. The application of these sciences to the arts are particularly referred to; and it has been the constant endeavour of the Professor to communicate to the Students as precise and accurate information as possible on the subjects treated in his Lectures, and to train them to habits of careful observation and accurate thinking. With this view a weekly examination of the whole Class is held, at which the Students are subjected to a searching examination on the business of the preceding week; and further to encourage a taste for scientific inquiry, and also to train a certain number of practical chemists, a limited number of the best Students are admitted, by examination, as working pupils into the chemical laboratory, where they have an opportunity of acquiring a knowledge of chemical analysis. This latter arrangement has now been in practice for several years, and has already been attended with the best results.

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NATURAL HISTORY—*Professor, Wyville Thomson,* LL.D.

The Zoological Department of the Course occupies the First Term and greater part of the Second, and comprehends the Outlines of Anatomy and Physiology of animals, followed by Systematic Zoology, and remarks on the distribution of animals.

The Botanical part comprehends Vegetable Anatomy and Physiology, Systematic Botany, and distribution of vegetable forms. In addition to the Class Lectures, meetings are held in the Botanic Garden, and practical excursions made into the neighbouring country.

The subject of Physical Geography is supplemental to the above Courses, and is delivered to Arts Students of the Third Year during the Second Term of the Session.

This Course comprehends chiefly Lectures on the structure and form of continents and islands; the distribution of mountain systems, rivers, and lakes; the ocean, its currents, temperature, &c.; the atmosphere, its currents, &c.; rain, snow, &c. The preceding subjects are considered in relation to the geographical distribution of animals and plants.

These different branches are illustrated by specimens, or drawings, or both, as the case may be.

LOGIC AND METAPHYSICS—*Professor, Rev. James M'Cosh,* LL.D.

LOGIC.

Students attend this Class four days each week during twelve weeks of the Second Session. On two of these days there are examinations on a text-book of Formal Logic, with short prelections on the said text-book, and also the oral explanation of philosophic terms, the reading of Essays by the Students, and the criticism of them by the Professor. On the other two days the Professor delivers written Lectures. This Course of Lectures is divided into two parts: FIRST, GENERAL LOGIC, or an Exposition of the Laws of Thought in general, that is, whatever be the object of thought, embracing Notions, Judgment, and Reasoning; SECONDLY, PARTICULAR LOGIC, or the Development of the Laws of Thought, as directed to particular classes of objects, comprising Demonstrative Evidence, Probable Evidence, Induction, Analogy, Teleology, and the Relation of the Organon of Bacon to that of Aristotle. The prominent topic in the second part is the Method of Induction, which is treated under the heads:—I. The Means, being generally Systematic Observation, and more particularly Analysis, Observation Proper, Experiment, Hypothesis, Explication of the Conception. II. The End, being the Discovery of Classes (as in Natural History, &c.), or Causes (as in Natural Philosophy, &c.). III. The Canons of Classes and Causes by which we may reach the End by the Means. The Students are required to give in a short written essay once a fortnight. At the Pass Examination, at the close, about one-half of the questions bear upon subjects discussed in the text-book, and the other half upon topics explained in the lectures.

METAPHYSICS.

This Class meets four days each week, and an hour each day, during the first two terms of the Session, and is attended by Students of the Third Year. On one of these days there is a rigid examination, with interspersed remarks by the Professor, on the second half of the Epitome of the History of Philosophy, sanctioned by the University of France (translated by Henry). In this part of the text-book there is an abstract of the doctrines of the more eminent philosophers who have flourished in this country, and on the Continent of Europe, from the time of Bacon to the present day. On another of these days there is an examination on the written lectures, together with the reading and criticism of essays; the Students being required to give in a carefully written essay every fortnight to the Professor, who reads it at home, and selects certain portions of it to be read in the class, where he criticises it. These essays are on the leading subjects discussed in the written lectures. On the other two days the Professor delivers carefully prepared written lectures. He begins the course with a few lectures on the Method of Investigation, which is that of Induction, and on Mind and Body,

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and then proceeds to divide his course into two parts, PSYCHOLOGY and METAPHYSICS PROPER.

Under PSYCHOLOGY he treats (1) of the Powers or Faculties of the Mind, and (2) of the Laws of the Succession of Thought. He classifies the faculties as follows:—I. The Simple Cognitive Faculties: (*a*) Perception; (*b*) Consciousness. II. The Reproductive Faculties: (*a*) Memory; (*b*) Imagination; (*c*) Symbolic Power. III. The Faculties which Discover Relations: (*a*) of Identity and Difference; (*b*) of Whole and Parts (to which we owe abstractions); (*c*) of Space; (*d*) of Time; (*e*) of Quantity; (*f*) of Resemblance (to which we owe the Discovery of Classes); (*g*) of Active Property; and (*h*) of Cause and Effect. IV. The Conscience. V. The Emotions; and VI. The Will. In this course of lectures, which occupies two-thirds of the session, the method of operation and peculiarities of these mental attributes are carefully pointed out.

Under METAPHYSICS PROPER the Professor treats of the Native or Constitutional Principles which are in the Mind prior to experience. He points out their true Psychological Nature, and shows that they are the fundamental laws or rules of the Faculties. He also specifies the tests, such as Self-evidence, Necessity, and Universality, by which they may be distinguished. He proves that they are in the constitution of the mind, and that they operate spontaneously, but that we can make a reflective or philosophic use of them only after we have detected their nature by a careful induction. He classifies them as the True and the Morally Good. Under the first he treats (1) of Primitive Cognitions and Beliefs, such as Body, Spirit, Substance, Power, Space, Time, the Infinite; and (2) Primitive Judgment, such as Substance and Quality, Mathematical Axioms, Cause and Effect. Under the Good, without entering into the subject of Ethics, he shows that there is a fundamental distinction between Moral Good and Evil. He closes this course by showing how all these principles should conduct us to the belief in a Being who is at one and the same time the True and the Good.

N.B.—The Professor has usually a higher class for the two First Terms, but, owing to its being a transition period between the Old University Regulations and the New, there were no students for such a class in 1860–61. There is such a class in 1861–62.

GEOLOGY AND MINERALOGY—*Professor, Wyville Thomson*, LL.D.

The Courses consist of lectures, demonstrations, and examinations. The Geological Course embraces the general principles of the science, and a detailed investigation of the palæontological, lithological, and economic characters of all the formations. The Students are exercised in the practical use of the necessary instruments, and in the construction of Geological maps and working sections. The characteristic fossils of the different formations are rendered familiar by the exhibition of specimens and models, and an excellent series of drawings. Drawings are also used for the illustration of the underground workings of mines of copper, coal, &c.

In the Mineralogical Course the Students are instructed in the most modern crystallography by models, and exercised with the reflecting goniometer. The electro-chemical classification of minerals is then explained, and an extensive suite of minerals in the museum is arranged on that system, for the instruction of the Students.

Once a week examinations are held, and additional explanations given of the subjects of the preceding lectures.

CIVIL ENGINEERING—*Professor, James Thomson*, A.M., C.E.

The Courses of lectures and of practical instruction given by the Professor of Civil Engineering were rearranged at the commencement of last Session, 1860–61, to accord with the new Ordinance of the Queen's University, bearing date the 28th of November, 1859, which prescribes to candidates for the Diploma in Civil Engineering a Curriculum extending usually over three Sessions; but admitting of abbreviation to two Sessions in the case of students whose previous acquaintance with a sufficient group of the subjects prescribed for study in the first and second sessions of the ordinary Course shall be deemed by the College Council satisfactory.

For the First Year Students the Professor gives a Course of instruction in the Principles of Geometrical Drawing, and in Office Work consisting chiefly of practice in engineering and architectural drawing. The business of this course is conducted in a great degree by giving out practical work to the Students, which they perform in the presence of the Professor, the requisite information and explanations being given by him, partly before, and partly during the execution of the work. By lectures, accompanied with oral examinations, are taught the elements of the science of descriptive geometry, the principles of perspective, and other branches of geometrical drawing; and the students are exercised in working examples in practice. The Class meets for two hours at a time on two days per week during the three Terms of the College Session.

For the Second Year Students two Courses are conducted by the Professor of Engineering, of which one is mainly a Lecture Course, and the other a Practice Course. The Lecture Course comprises mainly the following subjects, or most of them:—Principles and practice of surveying, levelling, and plotting, with the theory and use of the instruments required in surveying and levelling operations; descriptive geometry; perspective; isometrical projection; properties and qualities of materials used in construction; blasting and quarrying; preparation of specifications and estimates; water works for supplying towns; foundations, cofferdams, bridges, roads, and railways; tunnelling; and an introduction to architecture as a fine art.

In the Practice Course of the Second Year the students are engaged in the performance of office work and field work under the instruction and direction of the Professor; and the business includes surveying, levelling, drawing, mapping, and the computation of areas of lands, and other engineering calculations. Excursions are also made occasionally during the Session to visit engineering works.

For the Third Year Students there will be, like as there are for those of the Second Year, two Courses conducted by the Professor, one a Lecture Course, and the other a Practice Course. The business will comprise the further prosecution of several of the subjects entered on in the Second Year. In the Lecture Course it will include a more advanced treatment of the strength of materials and structures; also the science of the flow of water in orifices, pipes, and canals; drainage of fens by gravitation and by steam power, and other mechanical means; the iron manufacture; processes and mechanisms used in foundries and engineering workshops; ventilation of buildings and mines; farther lectures on railway engineering; and the detailed discussion of various selected undertakings and structures in civil and mechanical engineering.

The Practice Course of the Third Year will include office work, field work, and engineering excursions.

AGRICULTURE—*Professor, John Frederick Hodges,* M.D., F.C.S.

Theory of Agriculture.

The objects of this Course are to teach the principles of Agricultural Science. It includes an account of the origin and composition of soils, the structure and food of plants, and the composition and preparation of manures.

Practice of Agriculture.

The objects of this Course are to teach the young agriculturist how practice may be conducted in accordance with the principles of science, and the results of experience, and to describe the methods by which the largest amount of food may be profitably obtained from the soils of this country. It includes an account of the processes employed in the preparation of the soil for crops, draining, irrigation, &c., the history of the plants of the farm, and the economy of farm produce.

History and Diseases of Farm Animals.

In this Course the history, structure, and treatment of the animals of the farm, in health and disease, are described, and the relative value and economical preparation of the various substances used in feeding explained.

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All the Lectures in these Courses require an extensive series of illustrations, and efforts have been made to obtain suitable collections of apparatus, models, &c.; a valuable collection of drawings has been provided for the demonstration of the structure and forms of animals, and numerous specimens of seeds, &c., have been presented to the College. As the history of the treatment and technical management of the flax plant, which affords the raw material of the staple manufacture of Ireland, is regarded as an important department of the duties of an Agricultural Professor in Ulster, the chief seat of flax industry, a complete series of flax implements and specimens has been placed in the museum.

The Students are examined frequently during the Session, and required to write abstracts of the lectures. By these means their attention is secured, and their progress ascertained. Excursions are also made to implement and manure manufactories, and they attend the monthly meetings of the Chemico-Agricultural Society of Ulster, which are held in Belfast.

The influence which the young men thus trained must, in future years, exercise on the agriculture of Ireland may be expected to produce the most beneficial results.

ANATOMY AND PHYSIOLOGY—*Professor, Peter Redfern,* M.D., M.R.I.A.

The Department of Anatomy and Physiology comprises the Lectures on Anatomy and Physiology delivered at Queen's College, and the Course of Practical Anatomy and Anatomical Demonstrations carried on in a building hired for the purpose at the distance of a mile from the College.

The Course of Anatomy and Physiology includes about 115 meetings, each of an hour's duration, held on the first five days of each week from November to April inclusive. These meetings are for lecture and occasional examinations on the subjects previously considered in the lectures. The lectures include a complete course of the Anatomy and Physiology of the general textures of the body, including the blood, chyle, &c., and a systematic account of the whole of the viscera, treated of as they are associated in groups for the several purposes of digestion, circulation, respiration, urination, innervation, and generation; also the organs of sense. In treating of every part or organ its healthy state is shown by recent dissections and by preparations from the Museum illustrating it in man and animals, its diseased states and actions being referred to at the same time and contrasted with the healthy ones. The textures not visible to the naked eye are shown under a series of achromatic microscopes, so that during the Course every student in the class has an opportunity of judging for himself of the true characters of each part, and, by becoming familiarized with these, of recognising each when changed by disease.

The Course of Practical Anatomy and Anatomical Demonstrations includes:—

1st. Dissections carried on throughout the day under the immediate superintendence of the Professor of Anatomy and Physiology, and the Demonstrator. Each Student is required to be steadily engaged in dissections during the whole Session. For this purpose the supply of subjects is regular and abundant, and thus affords the surest foundation for efficient medical teaching.

2nd. This Course includes the Anatomical Demonstrations, which consist of a complete Course of Descriptive and Surgical Anatomy, commencing with the anatomy of the skeleton and bones, and including the anatomy of the limbs and other parts, excluding that of the viscera and the physiology treated of in the Course of Anatomy and Physiology. The demonstrations are given on each of the first five days of the week, and are about 115 in number in each Session.

Owing to the want of proper apartments at the College for the purposes of Practical Anatomy and Demonstrations, the Students still suffer great inconvenience by having to pass to and fro between the practical rooms and the College. In the intervals of their classes they also lose much valuable time, which, under other circumstances, might be spent in dissecting. This serious evil impairs the efficiency of the Medical Faculty, and constitutes the chief hindrance to the full development in Belfast of a very large and prosperous Medical School. It is earnestly to be desired that the Government should provide suitable anatomical apartments within the precincts of the College grounds, and thus encourage the cultivation and teaching of Medical Science where so many other circumstances are unusually favourable for these purposes.

PRACTICE OF MEDICINE—*Professor, John Creery Ferguson*, M.A., M.B., *Hon. Fellow of King and Queen's College of Physicians, &c.*

The class meets four times each week, from the first week of November to the last of the following April.

An examination is held usually once a fortnight. The Course embraces the principles of Inflammation, Fevers, the diseases, organic and functional, of the viscera of the three great cavities of the human body. In treating of individual diseases, their pathology, semeiology, ætiology, and treatment, are the subjects chiefly dwelt on. Wherever it is possible, pathology is illustrated by the preparations afforded by our Museum, by drawings and plates, or by recent specimens. It may be added that the Professor's present connexion with the Belfast General Hospital adds greatly to the means of making his Course more useful and interesting to students.

THEORY AND PRACTICE OF SURGERY—*Professor, Alexander Gordon*, M.D.

Four Lectures are delivered weekly during the Medical Session. An examination is held each day on the subject of the preceding day's Lecture. Each Course comprises the following subjects:—

Inflammation,
Suppuration,
Mortification,
Erysipelas,
Burns,
Ulcers,
Wounds,
Hæmorrhage,
Diseases of the Arteries,
" Veins,
Fractures of Trunk and Extremities,
" Cranium, Injuries of the Brain and Scalp,
Dislocations,
Diseases of the Joints,

Diseases of the Bursae,
" Bone, benign and malignant,
" the Jaws and Mouth,
" the Fingers and Toes,
" Female Breast,
" Anus and Rectum,
" Testis,
" Hernia,
" Prostate,
" Bladder,
" Eyes,
" Larynx,
Syphilis,
Gonorrhœa,
Stricture.

All the capital and minor operations are performed on the dead subject. A Dissecting Room in the College would be highly advantageous to the Surgical Student, as the Professor would be thereby enabled to make the Course of Operative Surgery more extensive, and it would afford additional facilities for instruction in Surgical Anatomy. The Professor delivers a separate Course of twenty-five Lectures on Operative Surgery.

MATERIA MEDICA—*Professor, James Seaton Reid*, M.D.

This Course includes—

1st. General Pharmacology, or the modes in which medicines act upon the living organism in a state of health.

2nd. Therapeutics, or the modes in which medicines act as curative agents.

3rd. Pharmacy.

4th. Dietetics, a review of the different kinds of food used in health and in disease.

5th. Special Pharmacology, or the history, composition, uses, and modes of administering medicinal agents for the cure of disease.

The Class meets four times each week. An examination is held once every week.

MIDWIFERY—*Professor, William Burden*, M.D.

Lectures four times a week during the six winter months consist of following subjects:—

Anatomy of the pelvis, so much as is required for midwifery. Its measurement and pelvimeters.

Contents of the pelvis. The functions of the uterus in its virgin state.

Conception—length of gestation—changes of the uterus and its appendages during gestation.

Growth of child from its earliest seen form until its full parasitic size.

Graafian vesicle and corpus luteum. Fœtus, its circulation, signs of maturity, weight, and length.

Plural births.

Proportion of births and deaths of males to females.

Superfœtation.

Signs of pregnancy.

Signs of approaching labour.

Natural labour, its progress; also the positions and progress of child till its separation from its mother.

Management of natural labour, including the arrangement of the bed and bed-room, and the proper dress and posture of the patient.

Tedious labour, its causes and treatment.

Labour requiring the use of instruments; their application taught on models in the class.

Cæsarean section and Sequltean operation—how to prevent the fœtus from getting large in uterus.

Premature labour—how to bring it on, and when it is necessary to do so.

Cross-births and their treatment.

Abortion—how to prevent it.

Extra uterine fœtations—how they occur, and their treatment.

Management of women after delivery, and treatment of such accidents and diseases as occur at this period.

Management of children after birth, washing, dressing, food, &c., and the choice of a wet-nurse, and treatment of such accidents as take place at this period, or soon after.

Practical midwifery taught by pupils attending patients in their own houses and in the Lying-in hospital, where Clinical Lectures are given.

MEDICAL JURISPRUDENCE—*Professor, Dr. Hodges.*

The Lectures in this Course are delivered twice weekly during six months. They include an account of the history and chemical investigation of poisons, and of the various subjects respecting which the evidence and assistance of Medical Practitioners may be required in Courts of Law. Experimental illustrations of the methods to be pursued in medico-legal inquiries are given, and frequent examinations held to test the progress of Students. No salary has been allocated to the Teacher of this department, and the duties, at the request of the Council, have, since the opening of the College, been performed by Dr. Hodges.

ENGLISH LAW—*Professor, Echlin Molyneux,* Q.C.

The Professor of English Law, in conducting his department, has constantly kept in view the object of the Select Committee of the House of Commons in recommending the foundation of Chairs in Law in connexion with the Queen's Colleges, which, as they stated in their Report on Legal Education, was not merely to prepare Candidates for the Bar, and for the profession of Attorney and Solicitor, but to raise the standard of legal attainments amongst local practitioners, and especially to provide opportunities of legal education to qualify persons intended to fill administrative situations not strictly legal—a policy which has been since followed up by the Legislature conferring privileges, by way of inducement, on Candidates for the profession of Attorney and Solicitor, who shall avail themselves of these Schools of Law.

The Course of the *First* year in this department comprehends the elements of real and personal property, with the principles of conveyancing; that of the *Second* consists of an introduction to the principles and practice of Courts of Equity and the law of Bankruptcy; the *Third* Course includes the common

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law as incident to contracts, the nature and form of remedies by civil action, and an outline of criminal law, theoretical and administrative, which last completes the Curriculum of instruction required for the attainment of the Diploma of Elementary Law in the Queen's University. The subjects prescribed for Students of the *Fourth* year to qualify them for the Degree of LL.B. embrace a more extended and detailed course of the subjects already enumerated, including the law of wills, powers, evidence, and procedure.

The Lectures are made auxiliary to the cotemporaneous studies directed, and are accompanied by interrogation, independent of the General Examination and that for Honors. Such books, cases, and decisions, and portions of treatises are pointed out for reading as are considered by the Professor most useful in elucidating a branch of learning which is scarcely furnished with books exclusively intended for instruction; and no efforts have been spared to point out the peculiarities of the law in Ireland, whether proceeding from statutes or inherent diversity of practice, or to direct attention to the recent changes which have been introduced into the course of procedure.

From the first opening of the College to the present time the successive classes have spontaneously applied themselves with assiduity and perseverance to the various subjects of legal instruction, and several Non-Matriculated Students have from time to time availed themselves of the privilege afforded by the College Ordinances of attending detached Courses of the Lectures on selected subjects.

Under these circumstances, the Professor is gratified at being able to give the assurance that the Faculty of Law has fully realized the objects of its founders, and that a further extension of its public benefits would ensue upon the adoption by Government of the suggestion made by the same Committee of the House of Commons that a preference should be given to candidates for situations in the Civil Service, not of a purely legal nature, who could produce testimonials of legal attainments from those institutions—a rule which would fully accord with the principle laid down in a recent report of another Committee in relation to the Civil Service.

JURISPRUDENCE AND POLITICAL ECONOMY—*Professor, T. E. Cliffe Leslie,* LL.B.

The subjects embraced in the Course of Lectures on *Jurisprudence* are, according to the regulations of this College, (1) the Elements of Jurisprudence, (2) Civil Law, (3) Constitutional Law, (4) Colonial and International Law.

In the treatment of these subjects both the *Historical* and *Philosophical* Methods are followed in the Lectures of the Professor. The Historical Method, for example, is applied in tracing the principal changes through which the laws of England have passed, the assignable causes of such changes, and the degree and manner in which, in comparison with the laws of Continental Europe, the laws of this kingdom have been affected by contact with the principles of Roman legislation. The method of Philosophical Analysis, on the other hand, is applied in investigating the doctrines of the foundation and classification of rights, the several parts and legitimate form of a complete code, the relation of Scientific Jurisprudence to other departments of Social Philosophy, and the means of improving the state of Positive Law as deducible from such considerations.

The subjects which a Course of Lectures on *Political Economy* must embrace are fewer and more definite than those classed under the less advanced and more complicated Science of Jurisprudence. It is the Professor's endeavour to illustrate the principles of Economic Science by the help of those practical applications which will be most interesting and useful in a large commercial town.

Appendix No. 8.

General Class Examination.

APPENDIX No. 8.

GENERAL CLASS EXAMINATION at the end of the SESSION 1860-61.

FIRST YEAR STUDENTS.

GREEK—*Examiner, Professor MacDouall.*

I.—1. Translate accurately the following passages from XENOPHON'S *Cyropædeia* :—

Ἐπεὶ δὲ εἶδε τὴν γυναῖκα χαμαὶ[3] καθημένην καὶ τὸν νεκρὸν κείμενον, ἐδάκρυσέ τε ἐπὶ τῷ πάθει καὶ εἶπε· "φεῦ, ὦ ἀγαθὴ καὶ πιστὴ ψυχή! οἴχῃ δὴ ἀπολιπὼν[4] ἡμᾶς"; καὶ ἅμα ἐδεξιοῦτο[2] αὐτόν, καὶ ἡ χεὶρ τοῦ νεκροῦ ἐπηκολούθησεν·[3] ἀπεκέκοπτο[2] γὰρ κοπίδι ὑπὸ τῶν Αἰγυπτίων. ὁ δὲ ἰδὼν πολὺ ἔτι μᾶλλον ἤλγησε· καὶ ἡ γυνὴ δὲ ἀνωδύρατο,[3] καὶ δεξαμένη δὴ παρὰ τοῦ Κύρου ἐφίλησέ τε τὴν χεῖρα καὶ πάλιν ὡς οἷόν τ'[4] ἦν προσήρμοσε,[3] καὶ εἶπε· "καὶ τἄλλα τοι, ὦ Κῦρε! οὕτως ἔχει· ἀλλὰ τί δεῖ σε ὁρᾶν; καὶ ταῦτα," ἔφη, "οἶδ'[4] ὅτι[4] δι' ἐμὲ οὐχ ἥκιστα[2] ἔπαθεν,[2] ἴσως δὲ καὶ διὰ σέ, ὦ Κῦρε! οὐδὲν ἧττον.[2] ἐγώ τε γὰρ ἡ μωρὰ πολλὰ διεκελευόμην αὐτῷ οὕτω ποιεῖν ὅπως σοὶ φίλος ἄξιος λόγου φανείη,[2] αὐτός τε οἶδ'[4] ὅτι[4] οὗτος οὐ τοῦτο ἐνενόει[2] ὅτι[4] πείσοιτο,[4] ἀλλὰ τί[4] ἂν[4] ποιήσας[4] σοὶ χαρίσαιτο.[4] καὶ γὰρ οὖν," ἔφη, "αὐτὸς μὲν ἀμέμπτως[3] τετελεύτηκεν, ἐγὼ δ' ἡ[3] παρακελευομένη[3] ζῶσα παρακάθημαι." καὶ ὁ Κῦρος χρόνον μέν τινα σιωπῇ κατεδάκρυσεν, ἔπειτα δὲ ἐφθέγξατο·[2] "ἀλλ' οὗτος μὲν δή, ὦ γύναι! ἔχει τὸ κάλλιστον τέλος· νικῶν γὰρ τετελεύτηκε· σὺ δὲ λαβοῦσα τοῖσδε ἐπικόσμει αὐτὸν τοῖς παρ' ἐμοῦ·"—παρῆν[4] δὲ ὁ Γωβρύας καὶ ὁ Γαδάτας πολὺν καὶ καλὸν κόσμον φέροντες·[4]—"ἔπειτα δ'," ἔφη, "ἴσθι[3] ὡς οὐδὲ τὰ ἄλλα ἄτιμος ἔσται, ἀλλὰ καὶ τὸ μνῆμα πολλοὶ χώσουσιν ἀξίως ἡμῶν καὶ ἐπισφαγήσεται[2] αὐτῷ ὅσα[4] εἰκὸς[4] ἀνδρὶ ἀγαθῷ. καὶ σὺ δέ," ἔφη, "οὐκ ἔρημος[2] ἔσῃ, ἀλλ' ἐγώ σε καὶ σωφροσύνης[3] ἕνεκα καὶ πάσης ἀρετῆς καὶ τἄλλα τιμήσω καὶ συστήσω ὅστις ἀποκομιεῖ[2] σε ὅποι[4] ἂν[4] αὐτὴ ἐθέλῃς·[4] μόνον," ἔφη, "δήλωσον πρὸς ἐμὲ πρὸς ὅντινα χρῄζεις κομισθῆναι." καὶ ἡ Πάνθεια εἶπεν· "ἀλλὰ θάρρει," ἔφη, "ὦ Κῦρε! οὐ[4] μή[4] σε κρύψω[4] πρὸς ὅντινα βούλομαι ἀφικέσθαι." ὁ μὲν δὴ ταῦτ' εἰπὼν ἀπῄει κατοικτείρων τήν τε γυναῖκα οἵου[4] ἀνδρὸς στέροιτο[4] καὶ τὸν ἄνδρα οἵαν[4] γυναῖκα καταλιπὼν[4] οὐκέτ' ὄψοιτο.[4] ἡ δὲ γυνὴ τοὺς μὲν εὐνούχους[3] ἐκέλευσεν ἀποστῆναι,[2] "ἕως[4] ἄν,"[4] ἔφη, "τόνδε ἐγὼ ὀδύρωμαι[4] ὡς βούλομαι·" τῇ δὲ τροφῷ[3] εἶπε[4] ποραμένειν,[4] καὶ ἐπέταξεν αὐτῇ, ἐπειδὰν[4] ἀποθάνῃ,[4] περικαλύψαι αὐτήν τε καὶ τὸν ἄνδρα ἐν ἑνὶ ἱματίῳ.[3] ἡ δε τροφὸς πολλὰ ἱκετεύουσα[4] μὴ[4] ποιεῖν[4] τοῦτο, ἐπεὶ οὐδὲν ἤνυε[2] καὶ χαλεπαίνουσαν ἑώρα,[2] ἐκάθητο κλαίουσα.[2] ἡ δὲ ἀκινάκην[4] πάλαι παρεσκευασμένη[4] σφάττει[2] ἑαυτήν, καὶ ἐπιθεῖσα[2] ἐπὶ τὰ στέρνα τοῦ ἀνδρὸς τὴν ἑαυτῆς κεφαλὴν ἀπέθνησκεν. ἡ δὲ τροφὸς ἀνωλοφύρατό[3] τε καὶ περιεκάλυπτεν ἄμφω ὥσπερ ἡ Πάνθεια ἐπέστειλεν.[2]

2. Parse fully the words thus numbered.

3. Derive and decompound the words thus numbered, annexing also other vocables derived from or cognate with them.

4. Elucidate fully the construction of the phrases thus numbered.

II.—Retranslate the following extract from the *Anabosis*:—

"You know, I presume, that the north wind carries a vessel out of the Pontus Euxinus towards Hellas, and the south wind (carries one) into it to the Phasis; and, when the wind is from the north, you say that it is fair weather for a voyage to Hellas. Is it possible, then, for any man to deceive you into embarking when the wind is blowing from the south? But I shall get you on board (you will say) in a calm. Well, then, I shall be sailing in only one vessel, you in a hundred at the least. How then could I either force you to sail with me, if you do not choose (to do so), or deceive you into accompanying me? But suppose that you have

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been deceived and imposed upon by me and have arrived at Phasis; and suppose too that we go ashore there: you will know, I take it, that you are not in Hellas; and I the deceiver shall be a single individual, and you the deceived nearly ten thousand men with arms in your hands."

III.—1. Translate perspicuously and elegantly these lines from the *Hecubē* of EURIPIDES:—

οὔκουν κακύνει[2] τοῖσδε τοῖς βουλεύμασιν,
ὃς ἐξ ἐμοῦ μὲν ἔπαθες οἷα φῂς[2] παθεῖν,
δρᾷς δ' οὐδὲν ἡμᾶς εὖ, κακῶς δ' ὅσον δύνᾳ[2];
ἀχάριστον[2] ὑμῶν σπέρμ', ὅσοι δημηγόρους[3]
ζηλοῦτε τιμάς[3]· μηδὲ γιγνώσκοισθέ[3] μοι,[3]
οἳ τοὺς φίλους βλάπτοντες οὐ φροντίζετε,
ἢν τοῖσι πολλοῖς[3] πρὸς[3] χάριν[3] λέγητέ τι.
ἀτὰρ τί[3] δὴ σόφισμα τοῦθ'[3] ἡγούμενοι
εἰς τήνδε παῖδα ψῆφον[3] ὥρισαν[3] φόνου;[3]
πότερα τὸ χρῆν[2] σφ'[2] ἐπήγαγ' ἀνθρωποσφαγεῖν[2]
πρὸς τύμβον, ἔνθα βουθυτεῖν[2] μᾶλλον πρέπει;
ἢ τοὺς κτανόντας ἀνταποκτεῖναι θέλων
εἰς τήνδ' Ἀχιλλεὺς ἐνδίκως τείνει[3] φόνον;[3]
ἀλλ' οὐδὲν αὐτὸν[3] ἥδε γ' εἴργασται[3] κακόν.[3]
Ἑλένην[3] νιν[2] αἰτεῖν χρῆν[2] τάφῳ προσφάγματα·
κείνη[2] γὰρ ὤλεσέν νιν ἐς Τροίαν τ' ἄγει.
εἰ δ' αἰχμάλωτον χρή[2] τιν' ἔκκριτον θανεῖν
κάλλει θ' ὑπερφέρουσαν,[2] οὐχ ἡμῶν τόδε·
ἡ Τυνδαρὶς γὰρ εἶδος ἐκπρεπεστάτη,
ἀδικοῦσά θ' ἡμῶν οὐδὲν ἧσσον εὑρέθη.
τῷ μὲν δικαίῳ[3] τόνδ' ἁμιλλῶμαι[3] λόγον·[3]
ἃ δ' ἀντιδοῦναι δεῖ σ', ἀπαιτούσης ἐμοῦ,
ἄκουσον. ἥψω τῆς ἐμῆς, ὡς φῄς, χερὸς
καὶ τῆσδε γραίας[2] προσπίτνων παρηΐδος·
ἀνθάπτομαί[3] σου[3] τῶνδε[3] τῶν αὐτῶν ἐγώ,
χάριν τ' ἀπαιτῶ τὴν[3] τόθ',[3] ἱκετεύω τέ σε,
μή μου τὸ τέκνον ἐκ χερῶν ἀποσπάσῃς,[3]
μηδὲ κτάνητε.[3] τῶν τεθνηκότων[3] ἅλις.[3]
ταύτῃ[3] γέγηθα κἀπιλήθομαι[2] κακῶν.[3]

2. Parse the words thus numbered,—explaining whatever is noticeable in flexion, formation, composition, or usage,—and for rare or poetic forms substitute the ordinary prosaic ones.

3. Elucidate the combinations thus numbered,—pointing out whatever is noticeable in either construction or usage,—and substitute the usual prosaic terms or phrases for poetic ones.

4. In regard to whatever trisyllabic feet occur in these lines, note both the position of each and the way in which it is made up.

5. In regard to every line which does not present the penthemimeral *caesura*, examine its structure and mark the portions of which it is composed.

LATIN—*Examiner, Rev. Dr. Reichel.*

I.

SYRUS. Di tibi, Demea, omnia omnes semper optata offerant.
MICIO. Syre, processisti hodie pulchre. DEMEA. Siquidem porro, Micio,
Tu tuum officium facies, atque huic aliquid paulum *prae manu*
Dederis, unde utatur; reddet tibi cito. MI. *Istoc vilius*.
AESCHINUS: Frugi homost. SY. Reddam hercle, da modo. AE. Age pater.
MI. Post consulam.
DE. Faciet. SY. O vir optume. AE. O pater mi festivissime.
MI. Quid istuc? quae res tam repente mores mutavit tuos?

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Quod *prolubium?* quae istaec subitast largitas? De. Dicam tibi:
Ut id ostenderem, quod te isti facilem et festivom putant,
Id non fieri *ex vera vita* neque adeo ex aequo et bono,
Sed ex adsentando indulgendo et largiendo, Micio.
Nunc adeo si ob eam rem vobis mea vita invisa, Aeschine, est,
Quia non iusta iniusta prorsus omnia omnino obsequor,
Missa facio: ecfundite, emite, facite quod vobis lubet.
Sed, si id vultis potius, quae vos propter adolescentiam
Minus videtis, magis impense cupitis, consulitis parum,
Haec reprendere et corrigere et obsecundare in loco,
Ecce me, qui id faciam vobis. Ae. Tibi, pater, permittimus:
Plus scis *quid facto opus est*. Sed de fratre quid fiet? De. Sino.
Habeat: in istac finem faciat. Mi. Istuc recte. Ca. Plaudite.

II.

Lusitiles. Sta *ilico:* noli avorsari neque te *occultassis* mihi.
Lesbonicus. *Potin* ut me ire quo perfectus sum sinas? Lu. Si in rem tuam,
Lesbonice, esse videatur, gloriae aut famae, sinam.
Le. Quod est facillimum facis. Lu. Quid id est? Le. Amico iniuriam.
Lu. Neque meumst neque facere didici. Le. Indoctus quam docte facis.
Quid faceres, si quis docuisset te ut sic odio esses mihi?
Qui mihi bene quom simulas facere, male facis, male consulis.
Lu. Egone? Le. Tu *ne*. Lu. Quid male facio? Le. Quod ego nollo id quom facis.
Lu. Tuae rei bene consulere cupio. Le. Tun' mi's melior quam ego mihi?
Sat sapio, satis in rem quae sint meam ego conspicio mihi.
Lu. An id est sapere, *ut qui beneficium a benevolenti repudies?*

* * * * * * * * *

Le. Omnia ego istaec quae tu dixti scio, *vel exignavero:*
Ut rem patriam et gloriam majorum foedarim meum.
Scibam ut esse me deceret, facere non quibam miser:
Iat vi Veneris vinctus, otio *aptus* in fraudem incidi:
Et tibi nunc proinde ut mereris habeo summam gratiam.

a. 1. Translate the above extracts, so as to give their sense accurately in idiomatic English.

2. Parse the words and explain the phrases printed in italics, stating any peculiarities of construction.

3. Mention the metres chiefly used by Plautus and Terence, and give scansional tables, specifying the licences they allow themselves as comic poets in using these metres.

4. Show how the Iambic may be derived from the Trochaic metre, and how this derivation explains their respective peculiarities.

5. What are *clausulae*, and what are their two chief laws?

β. 1. Give the dates of Plautus and Terence, their full names, and (*briefly*) any particulars of their lives you may recollect.

2. In what order were Terence's plays brought out?

3. How many plays of Plautus have we?

4. Mention some of the respective characteristics of these writers. *a*. In phraseology. *b*. In the general tone of their works.

5. From what Greek author was the Adelphi taken? Translate and explain the following lines from its Prologue:

> Synapothnescontes Diphili comoediast:
> Eam Commorientes Plautus fecit fabulam.
> In Graeca adolescens est, qui lenoni eripit
> Meretricem in prima fabula; eum Plautus locum
> Reliquit integrum: eum hic locum sumpsit sibi
> In Adelphos, verbum de verbo expressum extulit.
> Eam nos acturi sumus novam: pernoscite
> Furtumne factum existumetis an locum
> Reprensum, qui praeteritus neglegentiast.

6. Give a brief sketch of the plots of the *Trinumus* and *Adelphi.*
7. Give the meanings and the derivations of the following words:

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Cacula, ilignus, pistrilla, macellum, comissator, parasitaster, prolixe, mina, tessera, talus, posticulum, vorsoria, gerrae, fulmenta, incita, dierecte, tis, harpago.

8. Give the meanings of the following phrases:

Faxo hau tantillum dederis verborum mihi.
Posticulum hoc recepit.
Id una ibidem traho.
Se ad plures penetrare.
Hau nosco tuum.
Hercle qui dicam tamen.
Cena hac annonast sine sacris hereditas.
Ad incitas redigere.
Sector zonarius.
Floccum non interduim.
Ei rei pater est fundus.

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1. Give the comparative and superlative degrees of *humilis*, *munificus*, *dives*, *dexter*, *nequam.*
2. Give the Latin terms for the division of the *as.* Explain the terms, *usurae*, *centesimae*, *haeres ex asse.*
3. Distinguish between the uses of *hic—iste—ille* : *quum—quando* : *an—aut* : *quispiam—quisquam—aliquis—quivis—ullus* : *quantus—quotus—quot.*
4. What cases are governed by the following words: *convenio*, *miseror*, *posco*, *supersedeo*, *vescor*, *taedet*, *piget*, *refert.*
5. Correct the faults (if any) in the following sentences:

a. Nos credimur.
b. Illum morte minatus est.
c. Dignus est qui amatur.
d. Servi aut liberi sint quid refert?
e. Vitam illo eripuit.
f. Si quid habuerat, dedisset.
g. Nihil aliud faciunt quam rident.
h. Quum ego te aspiciam?
i. Uter nostri felicior est: tune aut ego?
k. Nemini te magis faveo.
m. Dudum a te literas exspectavi.

Translate the following into Latin Prose:—

Marius had just landed with a few of his men, when an officer came and thus addressed him: Marius, I come from the praetor Sextilius, to tell you that he forbids you to set foot in Africa. If you obey not, he will support the Senate's decree, and treat you as a public enemy. Marius, upon hearing this, was struck dumb with grief and indignation. He uttered not a word for some time, but stood regarding the officer with a menacing aspect. At length the officer asked him, what answer he should carry to the governor? "Go and tell him," said the unfortunate man, with a sigh, "that thou hast seen the exile Marius sitting on the ruins of Carthage."

ENGLISH LANGUAGE.—*Examiner, Professor Craik.*

1. Explain the position of the original form of the English language in the Indo-European family of languages.
2. Describe the present English language in respect, first, of its vocabulary; secondly, of its grammar.
3. Give an account of the successive steps by which the original English has been converted into the English now in use.
4. Explain to what stock the French language fundamentally, or in the main,

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belongs, and give an account of the two great dialects into which it was formerly divided.

5. Enumerate the several sources of the Latin to be found in our existing English.

6. Give an account of the Brut of Layamou, or of the Ormulum.

7. State when Chaucer lived and wrote, and explain how his English differs in its general character, first, from that of the preceding stage or form of the language; secondly, from that we now write and speak.

8. State the rule or principle according to which their present names seem to be given to the English vowels.

9. As a specimen of Composition, let every candidate write a short, but very careful Essay, on one of the following subjects:—

The nature of Internal Evidence;
The several organs of Articulation;
Some of the most common faults committed in reading;
The employment of the comma in writing.

MODERN LANGUAGES.—*Examiner, Professor Dr. Frings.*

Mes bons amis, je vais vous dire ce que je pense sur ce qui s'est passé depuis trois jours dans notre ville: écoutez-moi, je ne veux pas vous tromper.

Chacun de vous ne veut que le bien, parce que vous êtes tous d'honnêtes gens; mais chacun ne sait pas ce qu'il faut faire. Vous vous plaignez principalement de deux choses: du prix du pain et de celui de la viande. Occupons-nous premièrement du pain, et puis le reste viendra. Le pain est l'essentiel; avec du pain, si nous sommes raisonnables, nous aurons un peu de patience.

Il faut deux choses pour le pain: d'abord qu'il y en ait, ensuite qu'il ne soit pas trop cher. Eh bien, mes bons amis, j'ai une grande nouvelle à vous donner; c'est que le blé ne manque pas à l'heure où je vous parle; il y en a cinquante mille charges dans la ville; cela fait du pain pour trois mois et douze jours: c'est, je vous le dis, une grande nouvelle, parce qu'il est juste que le bon peuple ait du pain.

Ainsi, soyez tranquilles, parfaitement tranquilles; remerciez la Providence de ce qu'elle vous donne ce que tant d'autres, qui sont hommes comme vous, n'ont point.

Je vais maintenant examiner avec vous, d'où vient que le pain est fort cher, quoique nous ayons de blé en suffisance.

Vous ne l'ignorez pas, mes amis; le blé que vous mangez ne vient pas de votre territoire; il en vient un peu du reste de la Provence, un peu du Languedoc, de la Bourgogne, et la plus grande partie des pas étrangers.

Pourquoi est-il cher ici? Parce que ceux qui l'achètent sont obligés de le payer fort cher; parce qu'autour de nous les récoltes ont été mauvaises ou médiocres: Dieu l'a voulu; il nous donnera l'abondance une autre année.

Maintenant que vous savez pourquoi le blé est cher, vous ne pouvez pas être étonnés que le pain le soit aussi: car le blé et le pain sont, au fond, la même chose; il faut que le pain ne soit pas beaucoup plus cher que le blé; voilà tout ce que nous pouvons demander, voilà ce qui est juste.—MIRABEAU.

The condition and character of the American nations, at the time when they became known to the Europeans, deserve more attentive consideration than the inquiry concerning their original. The latter is merely an object of curiosity; the former is one of the most important as well as instructive researches which can occupy the philosopher or historian. In order to complete the history of the human mind, and attain to a perfect knowledge of its nature and operations, we must contemplate man in all those various situations wherein he has been placed. We must follow him in his progress through the different stages of society, as he gradually advances from the infant state of civil life towards its maturity and decline. We must observe, at each period, how the faculties of his understanding unfold; we must attend to the efforts of his active powers, watch the various movements of desire and affection, as they rise in his breast, and mark whither they tend, and with what ardour they are exerted.—ROBERTSON.

QUESTIONS.

1. Give the third person of the present tense, singular number, of the following verbs:—*Pouvoir, savoir, vouloir, offrir, mourir, devoir, concevoir.*

2. Give the first person of the Future tense, singular number, of the above-mentioned verbs.

3. State the arrangement in a sentence of the personal pronouns in the Dative and Accusative, and also the position of the negative adverbs. Give examples of the various arrangements.

4. State the position of the personal pronouns with a verb in the Imperative mood, both with and without the negative adverbs. Give illustrations.

5. State the difference of the meaning of the verbs in the following phrases. Translate them both into French and Latin:—What books *are read* in your class? I am going to return the books that *are read.*

6. In how many ways may the pronoun *what* be rendered in French? Give examples.

7. When is the relative pronoun *lequel* chiefly used, and when *qui*?

8. Give as many examples as you conveniently can of the negative adverb *Ne* and of the pronoun *En*, as applied in French, without there being any equivalent for those words in English. State the rule.

MATHEMATICS—*Examiner, Professor Slesser.*

ALGEBRA.

1. Multiply the expression $x^3-3x^2y+9xy^2-27y^3$ by $x-3y$ and divide the result by x^2+9y^2.

2. If $b>c$: show that $a-(b-c)=a-b+c$ and reduce to their simplest forms the following expressions:

(α) $a-\frac{b-c}{3}+\frac{a+b-c}{6}-\frac{c+d-a-b}{2}$.

(β) $\frac{x}{x-1}-\frac{x^2}{x^2-1}+\frac{x^4}{x^4-1}$

(γ) $\frac{a}{b-c}-\frac{b}{c-a}+\frac{c}{a-b}$.

(δ) Show that $\frac{abc}{(a-d)(b-d)(c-d)}+\frac{bcd}{(b-a)(c-a)(d-a)}+$

$$\frac{cda}{(c-b)(d-b)(a-b)}+\frac{dab}{(d-c)(a-c)(b-c)}=1.$$

3. Show that if G be the highest common factor of two algebraical expressions, A, B, then their lowest common multiple is $\frac{AB}{G}$. One of two bells rings 96 times per minute, and the other 72 times: if they begin to toll together when will they next toll together?

4. Find the sum of n terms of a geometrical series, and if the series be decreasing, find the limit of the sum when the number of the terms is infinitely increased.

If $\sigma=$ sum of a geometrical series in infin.:

$s_n=$ sum of n terms,

Show that $\sigma-s_n$, $\sigma-s_{n+1}$, $\sigma-s_{n+2}$, &c., are in geometric progression.

5. If $\frac{a}{\alpha}=\frac{b}{\beta}=\frac{c}{\gamma}=\frac{d}{\delta}=$ &c., show that each of these fractions is equal to

$$\frac{la+mb+nc+\ldots}{l\alpha+m\beta+n\gamma+\ldots}=\left(\frac{Aa^n+Bb^n+Cc^n+\ldots}{A\alpha^n+B\beta^n+C\gamma^n+\ldots}\right)^{\frac{1}{n}}.$$

6. Solve the following equations:

$$x-1-\frac{x-2}{2}+\frac{x-3}{3}-\frac{x-4}{4}=3\tfrac{1}{2}.$$

$$\frac{x+1}{x-1}+\frac{x+2}{x-2}+\frac{x+3}{x-3}=3.$$

$$(x-3)x(x+9)(x+6)=520.$$

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7. Having given a number in the denary scale of notation, show how to express it in the scale in which any given number is the radix.

Multiply two hundred by thirty-two in the scale whose radix is 7, and extract the square root of the result in the same scale.

8. Show that if the expression $Ax^n+A_1x^{n-1}+A_2x^{n-2}+\ldots\ldots+A_{n-1}x+A_n$, vanish for $n+1$ different values of x, then will $A=0$, $A_1=0$, $A_2=0\ldots\ldots\ldots A_n=0$.

Show that $$\frac{a^2}{(a-b)(a-c)(a-d)}+\frac{b^2}{(b-c)(b-d)(b-a)}+\frac{c^2}{(c-a)(c-b)(c-d)}+\frac{d^2}{(d-a)(d-b)(d-c)}=0.$$

9. A boy has a certain number of apples, when they are counted by fives there are 4 over, when counted by sixes there are 5 over, when counted by sevens there are 6 over, what is the number of apples?

10. Given $\log.\ (1+x)=x-\frac{1}{2}x^2+\frac{1}{3}x^3-\ldots\ldots$

Show that $$\log.\ (x+3)=\log.\ (x+1)+\log.\ (x-1)-\log.\ (x-3)+2\left\{\frac{4}{x^2-5}-\frac{1}{3}\left(\frac{4}{x^2-5}\right)^3+\frac{1}{5}\left(\frac{4}{x^2-5}\right)^5+\ldots\ldots\right\}$$

11. If one man attended 15 lectures out of 36, and another man attended 16, what is the chance (1) of their not having met in the lecture room, (2) of their having met once, (3) of their having met at least once?

GEOMETRY AND TRIGONOMETRY.

1. If a straight line be divided into two parts, the square on the whole line is equal to the squares on the two parts, together with twice the rectangle contained by the two parts.

Show that the squares on the two parts together are always greater than twice the rectangle contained by the two parts, except when the parts are equal.

2. If four straight lines are proportionals, the rectangle contained by the extremes is equal to the rectangle contained by the means.

Hence show that if two chords in a circle intersect, the rectangle contained by the two segments of one chord, estimated from their point of intersection (whether within or without the circle) is equal to the rectangle contained by the two segments of the other.

3. If a right cylinder on a circular base be cut obliquely by a plane, the section is an ellipse, of which the foci are the points of contact of the plane with spheres inscribed in the two portions of the cylinder into which it is divided by the plane.

4. Explain the two methods of measuring angles, and show that the ratio $\frac{\text{arc}}{\text{radius}}$ is a proper measure of the angle at the centre of the circle subtended by the arc. Find the circular measure of angles of 12°, 11° 15′, and 400°, and find the degrees, minutes, and seconds in an angle of circular measure, 1·2.

5. Define the sine, cosine, tangent, and secant of an angle, and show that

$$\sin^2 A+\cos^2 A=1;\ \tan A=\frac{\sin A}{\cos A}.$$

Given $\sin A+\cos A=c$, find the value of $\sin A$. What is the greatest value which $\sin A+\cos A$ can have?

6. Prove the formula for $\sin(A+B)$, first when A, B, $A+B$ are each $\angle$ 90°; second, when $A \not> 180°$ and $A+B \not< 270°$. Find θ by formulae adapted to logarithmic computation from the equation $p\sin\theta+q\cos\theta=c$.

7. Show that $\frac{\sin(A+n'')-\sin A}{\sin(A+m'')-\sin A}=\frac{n}{m}$ nearly, where n'' and m'' are small angles.

Given $\sin 30°\ 2'=\cdot 5005037$ find the value of $\sin 30°\ 1'\ 25''$.

8. Eliminate θ from the equations $a\sin\theta+b\cos\theta=\frac{1}{2}\sin 2\theta$ and $a\cos\theta-b\sin\theta=\cos 2\theta$.

9. Given two sides of a triangle, and the angles opposite one of them, investigate the conditions on which the ambiguity in the solution depends.

Appendix No. 6.

General Class Examination.

10. A, B, C, D are four points in a straight line, and O a point not in the line: $AB=a : CD=b$, and $AOB=\alpha : COD=\beta$, and $BOC=\gamma$, from these data determine BC.

11. Apply De Moivre's theorem to determine all the values of $(1+\sqrt{-1})^{\frac{1}{4}}$. Reduce to a real form

$$\tan^{-1}(a+b\sqrt{-1})+\tan^{-1}(a-b\sqrt{-1}), \text{ and}$$

$$\frac{1}{\sqrt{-1}}\left\{\tan^{-1}(a+b\sqrt{-1})-\tan^{-1}(a-b\sqrt{-1})\right\}$$

12. Shew that $2\sqrt{-1}\sin\theta=\varepsilon^{\theta\sqrt{-1}}-\varepsilon^{-\theta\sqrt{-1}}$ and $2\cos\theta=\varepsilon^{\theta\sqrt{-1}}+\varepsilon^{-\theta\sqrt{-1}}$.

Sum the series $1+x\cos\alpha+x^2\cos2\alpha+x^3\cos3\alpha+\ldots$ to ∞.

$$1+\sin\alpha\sin\beta+\frac{\sin^2\alpha}{1.2}\sin2\beta+\frac{\sin^3\alpha}{1.2.3}\sin3\alpha+\ldots\ldots\ldots \text{ to } \infty\cdot$$

SECOND YEAR STUDENTS.

GREEK—*Examiner, Professor Mac Douall.*

I.—1. Translate accurately and perspicuously the following extract from HERODOTUS —

Τοὺς δὲ βοῦς τοὺς ἔρσενας τοῦ Ἐπάφου εἶναι νομίζουσι, καὶ τούτου εἵνεκα δοκιμάζουσι αὐτοὺς ὧδε. τρίχα ἢν καὶ μίην ἴδηται ἐπεοῦσαν μέλαιναν, οὐ καθαρὸν εἶναι νομίζει. δίζηται δὲ ταῦτα ἐπὶ τούτῳ τεταγμένος τῶν τις ἱρέων, καὶ ὀρθοῦ ἑστεῶτος τοῦ κτήνεος καὶ ὑπτίου, καὶ τὴν γλῶσσαν ἐξειρύσας, εἰ καθαρὴ τῶν προκειμένων σημηΐων, τὰ ἐγὼ ἐν ἄλλῳ λόγῳ ἐρέω. κατορᾷ δὲ καὶ τάς τρίχας τῆς οὐρῆς, εἰ κατὰ φύσιν ἔχει πεφυκυίας. ἢν δὲ τούτων πάντων ᾖ καθαρός, σημαίνεται βύβλῳ περὶ τὰ κέρεα εἱλίσσων· καὶ ἔπειτα γῆν σημαντρίδα ἐπιπλάσας ἐπιβάλλει τὸν δακτύλιον· καὶ οὕτω ἀπάγουσι. ἀσήμαντον δὲ θύσαντι θάνατος ἡ ζημίη ἐπικέεται. δοκιμάζεται μέν νυν τὸ κτῆνος τρόπῳ τοιῷδε. θυσίη δέ σφι ἥδε κατέστηκε. ἀγαγόντες τὸ σεσημασμένον κτῆνος πρὸς τὸν βωμόν, ὅκου ἂν θύωσι, πυρὴν καίουσι. ἔπειτα δὲ ἐπ' αὐτοῦ οἶνον κατὰ τοῦ ἱρηΐου ἐπισπείσαντες καὶ ἐπικαλέσαντες τὸν θεὸν σφάζουσι· σφάξαντες δὲ ἀποτάμνουσι τὴν κεφαλήν. σῶμα μὲν δὴ τοῦ κτήνεος δείρουσι· κεφαλῇ δὲ κείνῃ πολλὰ καταρησάμενοι φέρουσι· τοῖσι μὲν ἂν ᾖ ἀγορὴ καὶ Ἕλληνές σφισι ἔωσι ἐπιδήμιοι ἔμποροι, οἳδε φέροντες ἐς τὴν ἀγορὴν ἀπ' ὦν ἔδοντο, τοῖσι δὲ ἂν μὴ παρέωσι Ἕλληνες, οἳδ' ἐκβάλλουσι ἐς τὸν ποταμόν. καταρέονται δὲ τάδε λέγοντες τῇσι κεφαλῇσι· "εἴ τι μέλλοι ἢ σφίσι τοῖσι θύουσι ἢ Αἰγύπτῳ τῇ συναπάσῃ κακὸν γενέσθαι, ἐς κεφαλὴν ταύτην τραπέσθαι." κατὰ μὲν νυν τὰς κεφαλὰς τῶν θυομένων κτηνέων καὶ τὴν ἐπίσπεισιν τοῦ οἴνου πάντες Αἰγύπτιοι νόμοισι τοῖσι αὐτοῖσι χρέωνται ὁμοίως ἐς πάντα τὰ ἱρά· καὶ ἀπὸ τούτου τοῦ νόμου οὐδὲ ἄλλου οὐδενὸς ἐμψύχου κεφαλῆς γεύσεται Αἰγυπτίων οὐδείς. ἡ δὲ δὴ ἐξαίρεσις τῶν ἱρῶν καὶ ἡ καῦσις ἄλλη περὶ ἄλλο ἱρόν σφι κατέστηκε. τὴν δ' ὦν μεγίστην τε δαίμονα ἥγηνται εἶναι, καὶ τὴν μεγίστην οἱ ὁρτὴν ἀνάγουσι, ταύτην ἔρχομαι ἐρέων. ἐπεὰν τῇ Ἴσι θύοντες ἀποδείρωσι τὸν βοῦν, κατευξάμενοι κοιλίην μὲν κεινὴν πᾶσαν ἐξ ὦν εἷλον, σπλάγχνα δὲ αὐτοῦ λείπουσι ἐν τῷ σώματι καὶ τὴν πιμελήν· σκέλεα δὲ ἀποτάμνουσι καὶ τὴν ὀσφὺν ἄκρην καὶ τοὺς ὤμους τε καὶ τὸν τράχηλον. ταῦτα δὲ ποιήσαντες τὸ ἄλλο σῶμα τοῦ βοὸς πιμπλᾶσι ἄρτων καθαρῶν καὶ μέλιτος καὶ ἀσταφίδος καὶ σύκων καὶ λιβανωτοῦ καὶ σμύρνης καὶ τῶν ἄλλων θυωμάτων. πλήσαντες δὲ τούτων καταγίζουσι ἔλαιον ἄφθονον καταχέοντες. προνηστεύσαντες δὲ θύουσι. καιομένων δὲ τῶν ἱρῶν τύπτονται πάντες· ἐπεὰν δὲ ἀποτύψωνται, δαῖτα προτίθενται τὰ ἐλίποντο τῶν ἱρῶν.

Appendix No. 8.

General Class Examination.

2. For every Ionic form substitute the Attic one: and, if any words in the passage be either disused or used in a different sense in Attic prose, suggest their Attic representatives.
3. Supply any *elleipses*, and explain any *anakoloutha* or remarkable constructions, which you may find in the passage.
4. Illustrate the rites here described in a few brief notes.

II. Translate accurately and perspicuously the following Ode from the *Trachiniae* of SOPHOCLES; and, in brief notes, discuss the more serious differences of reading and difficulties of interpretation:—

ΧΟΡΟΣ.

Στροφὴ α΄.

Ἴδ᾽ οἷον, ὦ παῖδες! προςέμιξεν ἄφαρ
τοὔπος τὸ θεοπρόπον ἡμῖν
τᾶς παλαιφάτου προνοίας,
ὅς ἔλακεν, ὁπότε τελεόμηνον ἐκφέροι
δωδέκατον ἄροτον, ἀναδοχὰν τελεῖν πόνων
τῷ Διὸς αὐτόπαιδι·
καὶ τάδε νῦν ἔμπεδως κατουρίζει.
πῶς γαρ ἂν ὁ μὴ λεύσσων
φῶς ἔτι πότ᾽ ἂν πόνων ἔχοι λατρείαν;

Ἀντιστροφὴ α΄.

εἰ γάρ σφε Κενταύρου φονίᾳ βελόνᾳ
χρίει δολοποιὸς ἀνάγκα
πλευρὰ προςτακέντος ἰοῦ,
ὃν ἔτεκε θάνατος, ἔτρεφε δ᾽ αἰόλος δράκων,
πῶς ὅδ᾽ ἂν ἔτι φάος ἕτερον ἢ τὸ νῦν ἴδοι;
δεινότατον μὲν ὕδρας
προςτέτακεν φάρμακον, μελαγχαίτα δ᾽
ἄμμιγά νιν αἰκίζει
θηρὸς ὀλόεντ᾽ ἐπιζέσαντα κέντρα.

Στροφὴ β΄.

ὧν ἅδ᾽ ἁ τλάμων ἄοκνος,
μεγάλαν προςορῶσα δόμοισι βλάβαν νέων ἀΐσσουσαν γάμων,
τὰ μὲν αὐτὴ προςέλαβε, τὰ δ᾽ ἀπ᾽ ἀλλόθρου
γνώμας μολόντ᾽ οὐλίαισι συναλλαγαῖς
ἦ που ὀλοὰ θρηνεῖ,
ἦ που ἀδινῶν χλωρὰν
τέγγει δακρύων ἄχναν.
ἁ δ᾽ ἐρχομένα μοῖρα προφαίνει δολίαν ἄταν.

Ἀντιστροφὴ β΄.

ἔρρωγεν παγὰ δακρύων·
κέχυται νόσος, ὦ πόποι! οἷον ἀναρσίων αὔπω Ζηνὸς κόρον
ἀγάκλειτον προςέμολε πάθος αἰκίσαι.
ἰὼ κελαινὰ λόγχα προμάχου δορός,
ἃ τότ᾽ ὀλοᾷ νύμφαν
ἄγαγες ἀπ᾽ αἰπεινᾶς
τάνδ᾽ Οἰχαλίας αἰχμᾷ!
τῶν δ᾽ ἀμφίπολος Κύπρις ἄναυδος φανερὰ πράκτωρ.

Appendix No. 8.

General Class Examination.

Latin.—*Examiner, Rev. Dr. Reichel.*

I. His atque talibus invicem instincti, Boadicea generis regii femina duce (neque enim sexum in imperiis discernunt,) sumpsere universi bellum: ac sparsos per castella milites consectati, expugnatis praesidiis ipsam coloniam invasere ut sedem servitutis. Nec ullum in barbaris saevitiae genus omisit ira et victoria. quod nisi Paullinus cognito provinciae motu propere subvenisset, amissa Britannia foret: quam unius proelii fortuna veteri patientia restituit, tenentibus arma plerisque quos conscientia defectionis et propius ex legato timor agitabat. hic quum egregius caetera arroganter in deditos et, ut suae quoque injuriae ultor, durius consuleret, missus Petronius Turpilianus tanquam exorabilior et delictis hostium novus eoque poenitentiae mitior, compositis prioribus nihil ultra ausus Trebellio Maximo provinciam tradidit. Trebellius segnior et nullis castrorum experimentis, comitate curandi quadam provinciam tenuit. didicere iam barbari quoque ignoscere, vitiis blandientibus: et interventus civilium armorum praebuit iustam segnitiae excusationem. Sed discordia laboratum, quum adsuetus expeditionibus miles otio lasciviret. Trebellius fuga ac latebris vitata exercitus ira, indecorus atque humilis precario mox praefuit: ac velut pacti, exercitus licentiam, dux salutem. haec seditio sine sanguine stetit.

II. Quis gremio Celadi doctique Palaemonis affert
Quantum grammaticus meruit labor? Et tamen ex hoc,
Quodcunque est, minus est autem quam rhetoris aera,
Discipuli custos praemordit ἀκοινώνητος,
Et qui dispensat, frangit sibi. Cede Palaemon,
Et patere inde aliquid decrescere, non aliter quam
Institor hibernae tegetis, niveique cadurci,
Dummodo non pereat mediae quod noctis ab hora
Sedisti, qua nemo faber, qua nemo sederet,
Qui docet obliquo lanam deducere ferro,
Dummodo non pereat totidem olfecisse lucernas,
Quot stabant pueri, quum totus decolor esset
Flaccus et haereret nigro fuligo Maroni.
Rara tamen merces, quae cognitione tribuni
Non egeat. Sed vos saevas imponite leges,
Ut praeceptori verborum regula constet,
Ut legat historias, auctores noverit omnes
Tanquam ungues digitosque suos, ut forte rogatus
Dum petit aut thermas aut Phoebi balnea, dicat
Nutricem Anchisae, nomen patriamque novercae
Anchemoli, dicat quot Acestes vixerit annis,
Quot Siculi Phrygibus vini donaverit urnas.
Exigite ut mores teneros ceu pollice ducat,
Ut si quis cera vultum facit, exigite ut sit
Et pater ipsius coetus, ne turpia ludant.
"Haec," inquit, "cure: sed quum se verterit annus
Accipe, victori populus quod postulat aurum."

1. Translate fully and clearly the above passages, and write *brief* notes commenting on anything in them which seems to demand explanation.

2. Cite some passages from Juvenal which may assist in determining the date of some of his compositions.

3. Mention peculiarities in the style and language of Juvenal and Tacitus which distinguish them from the writers of the Augustan age.

4. Give the dates of the accession and death of Nero, Vespasian, Titus, Domitian, Nerva, Trajan, and Hadrian; and mention *briefly* the chief events in their reigns.

5. Under which of these emperors is Juvenal supposed to have written? What nickname does he give Domitian?

6. Give the meanings, and, when known, the derivations, of the following words: autumo, cassis, buccula, aplustre, bascanda, temetum, aretalogus, colus, verpus, naulum, sinciput, eminus, patella, luscus, quadra, siparium, guttus, potaurum, mandra, liburna, cantharus, vadimonia, pinnirapus, siligo, alveolus.

Appendix No. 8.

General Class Examination.

Translate into Latin the following piece:—

The aim of Lycurgus was to form of Sparta a warlike state, and secure it against foreign attack. What inducement could a land possess to a conqueror, where gold and silver, precious stones, and the other implements of wealth, were not to be found? Who could hope to subjugate a state, where every citizen, being bred to war, had no other aim than to acquire distinction by personal prowess, and where every acquisition was despised, except that of public honour? Tillage, and the necessary mechanic arts, were carried on entirely by slaves: the citizens constantly met together for the purpose of keeping up religious and warlike games. All took their meals together, after the ancient custom of the heroic ages: they supported themselves by the chase, trained themselves to the use of arms, broke their horses, frequented the public places of instruction, and were spectators and judges of the warlike games, which constituted the most important part of Spartan education.

MODERN LANGUAGES.—*Examiner, Professor Dr. Frings.*

Il s'est trouvé dans tous les temps des hommes qui ont su commander aux autres par la puissance de la parole. Ce n'est néanmoins que dans les siècles éclairés que l'on a bien écrit et bien parlé. La véritable éloquence suppose l'exercice du génie et la culture de l'esprit. Elle est bien différente de cette facilité naturelle de parler, qui n'est qu'un talent, une qualité accordée à tous ceux dont les passions sont fortes, les organes souples et l'imagination prompte. Ces hommes sentent vivement, s'affectent de même, le marquent fortement au dehors, et, par une impression purement mécanique, ils transmettent aux autres leur enthousiasme et leurs affections. C'est le corps qui parle au corps; tous les mouvements, tous les signes concourent et servent également. Que faut-il pour émouvoir la multitude et l'entraîner? Que faut-il pour ébranler la plupart même des autres hommes et les persuader? un ton véhément et pathétique, des gestes expressifs et fréquents, des paroles rapides et sonnantes. Mais pour le petit nombre de ceux dont la tête est ferme, le goût délicat et le sens exquis, et qui, comme vous, messieurs, comptent pour peu le ton, les gestes et le vain son des mots, il faut des choses, des pensées, des raisons; il faut savoir les présenter, les nuancer, les ordonner; il ne suffit pas de frapper l'oreille et d'occuper les yeux; il faut agir l'âme et toucher le cœur en parlant à l'esprit.

Le style n'est que l'ordre et le mouvement qu'on met dans ses pensées. Si on les enchaîne étroitement, si on les serre, le style devient fort, nerveux et concis; si on les laisse se succéder lentement, et ne se joindre qu'à la faveur des mots, quelque élégants qu'ils soient, le style sera diffus, lâche et traînant.—BUFFON.

It is a precept several times inculcated by Horace, that we should not entertain a hope of anything in life which lies at a great distance from us. The shortness and uncertainty of our time here, make such a kind of hope unreasonable and absurd. The grave lies unseen between us and the object which we reach after: where one man lives to enjoy the good he has in view, ten thousand are cut off in the pursuit of it.

It happens likewise, unluckily, that one hope no sooner dies in us, but another rises up in its stead. We are apt to fancy that we shall be happy and satisfied if we possess ourselves of such and such particular enjoyments; but, either by reason of their emptiness or of the natural inquietude of the mind, we have no sooner gained one point but we extend another. We still find new inviting scenes and landscapes lying behind those which at a distance terminated our view.

The natural consequences of such reflections are these: that we should take care not to let our hopes run out into too great a length; that we should sufficiently weigh the objects of our hope, whether they be such as we may reasonably expect from them what we propose in their fruition, and whether they are such as we are pretty sure of attaining in case our life extend itself so far. If we hope for things at too great a distance from us, it is possible that we may be intercepted by death in our progress towards them. If we hope for things of which we have not thoroughly considered the value, our disappointment will be greater than our pleasure in the fruition of them. If we hope for what we are not likely to possess, we act and think in vain, and make life a greater dream and shadow than it really is.—ADDISON.

Appendix No. 8.

General Class Examination.

1. In what century was the "*Roman de la Rose*" written, and by whom?
2. When did *Rabelais* live, and which is his principal work?
3. What change did *Ronsard* effect in the French language.
4. When did *Malherbe* appear, and what change did he make in versification.
5. Who gave the French the first model of tragedy, and what is the name of the play.
6. In whose writings, previous to the age of Louis XIV., do we find the French language in its highest perfection?
7. What is the characteristic of French poetry?
8. Translate: "Give me some warm water, I want to wash my hands." "In a fit of insanity he blew out his brains."

MATHEMATICS.—*Examiner, Professor Slesser.*

ANALYTICAL GEOMETRY.

1. Explain what is meant by the "equation of a locus," and the "locus of an equation." Trace the loci represented by the equations $x-a=0$, $(x+a)(y-b)=0$, $(x-a)^2+(y-b)^2=0$, $(x-a)^2-(y-b)^2=0$, and $2x^2-3xy-2y^2=0$.

2. Show that the length of the $\perp^r$ from the point $x'\ y'$ on the line $x\cos\alpha+y\sin\alpha-p=0$ is $x'\cos\alpha+y'\sin\alpha-p$. The equation of a line being $y-mx-c=0$, what does $y-mx-c$ represent for points which are not in the line?

3. If the equations of two straight lines be $x\cos\alpha+y\sin\alpha-p=0$, and $x\cos\beta+y\sin\beta-q=0$, find the equations of the lines passing through their point of intersection, and dividing the angles between them into parts whose difference is 2γ.

4. Lines are drawn parallel to the sides of a triangle, and dividing the sides which they cut taken in order in the same ratio; these lines are produced to form another triangle, and its angles are joined to the opposite angles of the original triangle; show that the joining lines will intersect in the centre of gravity of the original triangle.

5. In the parabola $y^2=4ax$: $ky=2a(x+h)$ is the equation of the chord of contact of tangents meeting in $(h, k.)$

The locus of the points of intersection of tangents whose chord of contact touch the circle $x^2+y^2-\gamma^2=0$ is $(y^2+4a^2)\gamma^2=4a^2x^2$.

6. Find the equation of the tangent to the ellipse $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$, at point $x'\ y'$.

Show that all lines represented by the equation $Ax+By=1$, where A, B, are connected by the equation $l^2A^2+m^2B^2=\frac{1}{c^2}$ touch the ellipse $\frac{x^2}{l^2c^2}+\frac{y^2}{m^2c^2}=1$

7. Find the equations of the asymptotes of the curve $(y-nx)(y-mx)+ax+by-c^2=0$, and trace the curve.

8. The equation of a parabola is $(x\sqrt{a}+y\sqrt{c})^2+dx+ey+f=0$: show that $x\sqrt{a}+y\sqrt{c}=0$ is a diameter, $d+xey+f=0$ is the tangent at its extremity, and that when these two lines are taken as axes the equation is $(a+c)\eta^2\sin\theta=\sqrt{d^2+e^2}\,\epsilon$, where θ is the angle between the new axes.

9. The equation of a conic inscribed in a triangle, of which the equations of the sides are $\alpha=0$, $\beta=0$, $\gamma=0$, may be put in the form $\sqrt{l\alpha}+\sqrt{m\beta}+\sqrt{n\gamma}=0$.

If the lines joining the points of contact of the sides with the opposite angles meet at the centre of the circle inscribed in the triangle, the equation of the conic is

$$\sqrt{\alpha}+\sqrt{\beta}+\sqrt{\gamma}=0.$$

10. Find the polar equation of the tangent to the conic $\frac{c}{r}=1+e\cos\theta$ at the point where $\theta=\alpha$.

11. State and prove Newton's XIth Lemma.

AB is part of an arc of continued curvature, and the chord AB and tangents AT, BT are drawn, find the ultimate ratio of the triangle ATB to the segment AB, when the arc AB is indefinitely diminished.

Appendix No. 8.

General Class Examination.

DIFFERENTIAL CALCULUS, &c.

1. Define the differential coefficients of a function, and from your definition deduce the differential coefficients of $\frac{1}{x^2}$, and $(a+x)^{\frac{1}{2}}$.

2. If u be a given function of y, and y a given function of x, show that

$$\frac{du}{dx}=\frac{du}{dy}\cdot\frac{dy}{dx}.$$

Differentiate the following expressions:

$$x^n a^x,\ (x+\sqrt{x^2-1})^n,\ \sin^{-1}\frac{1}{\sqrt{1+x}},\ x^{\tan x},\ \log\{\log(\log x)\}.$$

3. If x and y be related by the equation $\phi(x, y)=0$, show that $\frac{d\phi}{dx}+\frac{d\phi}{dy}\frac{dy}{dx}=0.$

Given $ax^2+2bxy+cy^2=0$: show that $\frac{d^2y}{dx^2}=0.$

4. If u be a function of two independent variables x, y, transform $x\frac{du}{dx}+y\frac{du}{dy}$ and $x\frac{du}{dy}+y\frac{du}{dx}$ into expressions in which r, θ shall be the independent variables, where $x=r(\epsilon^{\theta}-\epsilon^{-\theta})$ and $y=r(\epsilon^{\theta}+\epsilon^{-\theta})$.

5. Investigate the conditions for a maximum or minimum value of a function of two independent variables.

Given $x^{2m}+y^{2n}+z^{2p}=1$, find the values of x, y, z, which make xyz a maximum.

6. Show that if $f(a)=0$ and $F(a)=0$, the limit when $x=a$ of $\frac{f(x)}{F(x)}$ is the first of the expressions $\frac{f'(a)}{F'(a)}, \frac{f''(a)}{F''(a)}, \frac{f'''(a)}{F'''(a)}$............ which assumes a determinate form.

Find the values of

$$\mathrm{lt}_{x=0}\frac{\sin ax-ax\cos x}{1-\cos x}:\ \mathrm{lt}_{a=\beta}\frac{(1+a)^n-(1+\beta)^n}{a-\beta}:\ \mathrm{lt}_{m=n}\frac{m^n-n^m}{(m-n)^2}:$$

$$\mathrm{lt}_{x=\infty}\left\{(x^n+p_1x^{n-1}+p_2x^{n-2}+\ldots\ldots)^{\frac{1}{n}}\right.$$

$$\left.-(x^m+q_1{}^{m-1}+q_2x^{m-2}+\ldots\ldots)^{\frac{1}{m}}\right\}.$$

7. If ψ be the angle which the tangent to a curve makes with the axis of x, then $\frac{dx}{ds}=\cos\psi$, $\frac{dy}{ds}=\sin\psi$, and assuming that the radius of curvature $\rho=\frac{ds}{d\psi}$:

$$\text{prove } \rho=-\frac{\frac{dy}{ds}}{\frac{d^2x}{ds^2}}=\frac{\frac{dx}{ds}}{\frac{d^2y}{ds^2}}=\frac{1}{\sqrt{\left(\frac{d^2x}{ds^2}\right)^2+\left(\frac{d^2y}{ds^2}\right)^2}}.$$

8. Find the length of the evolute of a parabola from the centre of curvature at the vertex to the centre of curvature at the end of the latus rectum.

9. Find the values of the integrals $\int x^2(x-1)^2dx$, $\int\left(\sqrt{\frac{x}{a}}+\sqrt{\frac{a}{x}}\right)dx$, $\int \epsilon^{mx}\cos nx\,dx$, $\int_0^a x^2\sqrt{a^2-x^2}\,dx$, and prove a formula for the reduction of $\int_0^{\infty}\frac{dx}{(x^2+a^2)^n}$.

10. If the law of mortality be such that out of n persons born at the same time, m die every year until they are all extinct, find the chance of a man whose age is a years, dying before he reaches the age of b years.

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General Class Examination.

11. Show that $\frac{d}{da}\int_c \phi(a, x)dx = \phi(a, b)\frac{db}{da} - \phi(a, c)\frac{dc}{da} + \int_c^b \frac{d}{da}\phi(a, x)\,dx$, where b and c are given functions of a.

12. Solve the following differential equations:

(α) $(1-x^2)\frac{dy}{dx} + xy = (1-x^2)^{\frac{3}{2}}$.

(β) $\frac{d^2y}{dx^2} - 2m\frac{dy}{ax} + (m^2+n^2)y = A\epsilon^{mx} + B\cos mx$.

(γ) $\frac{d^3y}{dx^3} + 27y = A \cos 3x$.

(δ) $\frac{d^2y}{dx^2} - \frac{c^2}{x^{\frac{2}{3}}}y = 0$.

(ε) $\frac{dy}{dt} + x\cos\alpha - y\sin\alpha = 0$, $\frac{dx}{dt} + x\sin\alpha + y\cos\alpha = 0$.

Logic.—*Examiner, Rev. Dr. M'Cosh.*

1. Definition is said to aid in making a notion clear and distinct. Bring out this by the definition of Logic. Division is said to make a notion adequate. Illustrate this by a division of Logic.

2. Show precisely how it is that every general notion must have both extension and comprehension, and that the one must ever be in the inverse ratio to the other.

3. Charles V. said that a man is as many times a man as he learns a new language. Bring out clearly what truth you may conceive to be in this statement.

4. Whately says IEO is to be rejected. Why? A person urged that there may be a valid syllogism in IEO, and gave the following, which you are required to examine:—

I. Some X is Y.
E. Every Y is not Z.
O. Some X is not Z.

5. Examine the following, and in doing so indicate the mood and figure, and reduce it:—"Persons often referring to religion are religious professors; I have found several such persons to be wicked; and I am inclined to look on religious professors as wicked."

N.B.—Instead of this, those seeking honors may state and examine Mr. Mill's attributive theory of reasoning.

6. Explain what is meant by *reductio ad impossible*, and indirect demonstration.

7. "A good man is always a charitable man. But this man is a charitable man, and I conclude he is a good man." State this both as a conditional and categorical, and in doing so explain what is the difference between a conditional and categorical.

8. Examine the following and say what are the fallacies involved, and in doing so define the fallacies:—

(*a*) A person has observed so many as twenty persons who have a great memory but have not a powerful understanding, he concludes that a powerful memory and a powerful understanding are incompatible.

(*b*) Two persons are arguing on the subject of slavery. One maintains that it is wrong in any one to claim the right of property in a fellow-man. The other shows that the slaves in the Southern States of America are more comfortable than a large number of the working-classes in Ireland.

9. Define Probation. Define Evidence. Define Demonstration. Define Mathematical Definition. Define Mathematical Axiom. Show what precise purposes are served by definitions and axioms in constructing the science of Geometry, and notice the controversies on this subject.

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General Class Examination.

10. What is the difference between a "perfect induction," an "induction by simple enumeration without a known exception," and the induction actually followed in physical science? How are we justified in the last of these in rising from the facts which are limited, to the law of the facts which is universal? How is the reasoning put in a perfect induction? and how in the induction of physical science?

11. What is the difference between reason and cause? What is Aristotle's division of causes? Which of these do we seek in ordinary physical science? In what sciences do we strive to discover causes? Whence the difficulty of finding causes?

12. Xenophon tells us that in the retreat of the ten thousand a fierce wind blew in the faces of the soldiers and caused them much suffering; whereupon a soothsayer advised that sacrifices should be offered to the winds, and when that was done the wind immediately ceased, which was ascribed to the god Boreas. To what head of fallacies would this be referred in formal Logic? How could you show that this conclusion is not justified by the Method of Difference? Enunciate the canon of that method.

13. Is the evidence of testimony intuitive or experiential? Enunciate some of the canons of historical evidence. What purpose do they serve logically? What narratives diminish in certainty from age to age? What continue the same through all ages?

14. In what sciences is deduction the exclusive instrument? How does it come that deduction can be so extensively used in these? In what sciences must we begin with induction? Why so? When may these sciences become deductive? Name sciences which have reached this stage. Show how deduction and induction may be combined.

For mere Pass the Student may substitute any of the following for a corresponding number of the above:—

(*a*) What are the laws of thought involved in the use of signs?

(*b*) "There were twenty thousand men engaged in battle." What is the subject, what the predicate, and what the copula in the above proposition? What is its quantity and quality? Is the predicate distributed?

(*c*) What is meant by subalternation? What by contrary opposition? What by contradictory opposition?

(*d*) Why must the conclusion in the second figure be negative?

(*e*) What is the canon of the method of agreement? Give an example.

SECOND AND THIRD YEAR STUDENTS.

NATURAL PHILOSOPHY.—*Examiner, Dr. Stevelly.*

1. State some of the facts which prove that the absolutely solid particles of even the densest form of matter are not in actual contact.

2. Explain fully what is meant by the inertia of matter, and state the proofs that every body has inertia independent of its weight, though proportional to it.

3. A body is found to contain 9·25 times as much matter as the unit mass, and its volume, at the standard temperature and pressure, is three and seven-tenths time the unit volume. What is its mean density? Define Density, and explain the distinction between Absolute and Mean Density.

4. Explain how capillarity affects the hydrostatic level of liquids in open tubes. State the law which governs the elevation or depression, and explain Brook Taylor's experimental illustration of it.

5. Three uniform spheres contain quantities of matter in the proportion of 1, 2, and 3; the centres of 1 and 2 are at the given distance A, the centres of 1 and 3 at the given distance B, and the centres of 2 and 3 at the given distance C; find the centre of gravity of the three.

6. Enumerate the mechanic powers, and give a general description of some one or two of them, and the rule by which the relation of the forces which equilibrate on these is determined.

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General Class Examination.

7. State the proofs that the accelerating force of gravity at a given place is the same for all bodies of whatever kind or magnitude, and from that fact prove that the statical forces of gravity are proportional to the masses of inert matter in different bodies.

8. Explain how a cylindrical piece of lead may be made to swim in water, and why it does so, and at what depth it would cease to swim.

9. Explain the action of a syphon, and state why boiling water cannot be drawn off from a vessel by a syphon.

10. Explain the optical principle on which the reflectors in lighthouses act, and the contrivances by which mariners are enabled to distinguish at a distance, and at night, one lighthouse from another near it.

11. Name the arches by which the position of an astronomical object is fixed relatively to the celestial equator, and describe how these angles are observed or determined in any case.

12. Explain clearly the polarity, the directive power, the declination, and the variation, of the magnetic bar or needle.

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13. A string, whose length is l, is fastened at its ends to two points which lie in the same horizontal plane, at a distance equal to a (which is less than l); a ring which runs perfectly smoothly on the cord sustains the weight W. Find the expression for the force which strains the string or tends to break it when W rests at its position of equilibrium.

14. If a number of forces, applied at several points on a perfectly flexible cord, are in equilibrium, show that if forces equal and parallel to each of these were simultaneously applied at any one point they would be in equilibrium.

15. If the centre of gravity of a heavy body be compelled to oscillate in a cycloid whose base is horizontal and vertex turned downwards, prove that the free part of the force of gravity which changes its motion as it moves along is proportional to its distance from the vertex measured along the curve.

16. Explain the Aspirator, and the pneumo-hydraulic principle of its action.

17. The absolute index of refraction of water is q. p. $\frac{4}{3}$ and the absolute index of glass q. p. $\frac{3}{2}$. Show how to find the relative index from water into glass. Enunciate the general optical principle, and prove it.

18. Explain why a magnetic bar, if made to float freely on the surface of a sheet of water, although its austral pole would be turned round towards the north, yet the floating needle would not be drawn towards the north side of the sheet of water.

ANALYTIC MECHANICS.

1. State and prove Guldinus' properties with regard to the surface and volume generated by the revolution of a given curve about an axis in its plane.

Deduce thence the expression for the volume of a right cone.

2. A string under the action of gravity is stretched over a perfectly smooth surface of any form. Show that the tension at any point is proportional to the distance of that point above the free extremity of the string. And show how to find the pressure on the curve.

3. A uniform rod of matter attracting according to the law of gravitation, attracts a particle external to the rod. Find the whole attraction on the particle, and the direction in which it acts. If there be three rods of equal thickness, infinite in length, and in same plane, find the position of equilibrium of a particle under their influence.

4. If the motion of a particle be referred to axes $x\ y$, turning about the origin with angular velocity ω, show that its velocities parallel to the axes are $u=\frac{dx}{dt}-y\omega : v=\frac{dy}{dt}+x\omega$, and its accelerations parallel to the same axes are $\frac{du}{dt}-v\omega : \frac{dv}{dt}+u\omega$.

A particle is placed in a smooth tube which revolves in a vertical plane uniformly about a point at a given distance from the tube; determine the motion.

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General Class Examination.

5. A particle moves on a given smooth fixed curve under the action of given forces; show how to determine the velocity in any position, and the pressure.

If equation of the tube is $s^2 = 8, ax$, the axis of x, being vertical, determine the motion completely.

6. Show that in an orbit about a centre of force $v\ p =$ const., where p is the perpendicular on the tangent.

Show that this expresses that the moment of the particle's momentum about the centre of force is constant.

NATURAL PHILOSOPHY.

7. Prove that any couple acting in the same or a parallel plane is equivalent to a given couple if it have the same moment and same direction; that is, if it have the same axis.

8. Investigate the resultant of two couples which do not act in the same or in parallel planes.

9. Suppose the planets to be moving in exact circles round the sun at rest in their common centre, show from Kepler's third law that the accelerating force of gravity to the sun on each planet would be reciprocally proportional to the squares of their distances from the sun.

10. Given the accelerating force with which a central body attracts another at a given distance from it; find the direction and velocity with which that other must be projected, in order to describe a circle round that central body.

11. If the sea water were absolutely incompressible, and of the same density and temperature at all depths, find the greatest depth to which a diving-bell could be sunk in it, that the air in the bell should not become more dense by compression than the water, and so sink into it.

12. Write down the formula which determines the position of the focus conjugate to a given radiant point for a lens, the position of whose centre, the radii of whose surfaces, and whose refractive index relative to the surrounding medium are given, and give the investigation.

13. Explain the construction and use of the sinus galvanometer, and prove the correctness of the principle on which its indications are taken

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THIRD YEAR STUDENTS.

PHYSICAL GEOGRAPHY.—*Examiner, Dr. Wyville Thomson.*

1. Name, and trace the direction of, the great currents in the Atlantic Ocean, and explain their several causes.

2. Describe the mode of formation, and state any circumstances connected with the melting, of icebergs.

3. Describe the general distribution of the principal rivers of South America.

4. What are the peculiarities of an insular climate? and what is their cause?

5. Give a sketch of the distribution of the principal lines of modern volcanoes.

6. What natural orders of plants are characteristic of Australia, and what is the general aspect of its vegetation?

7. What are the limits of the region of the Cinchonaceae, what valuable plants does this region produce, and to what purposes are they applied.

8. What plants are used in the various parts of South America as staple articles of food?

[HONOR QUESTIONS.]

9. Give some of the leading proofs, ancient and modern, of local changes in the relative level of land and sea.

10. On the theory of distribution from "specific centres," how might we account for the wide distribution of the same species of Alpine plants on the mountain chains of Labrador, of Scandinavia, of Britain, and of Continental Europe?

Appendix No. 8.

General Class Examination.

METAPHYSICS.—*Examiner, Rev. Dr. M'Cosh.*

1. Show wherein the method of inquiry in psychology agrees with, and wherein it differs from, the method of inquiry in physical science. Can observation and experience establish necessary truths? What then can they do in regard to such truths?

2. What is meant by the automatic or reflex system? What by the consensual or sensori-motor system? What is the nervous apparatus of the muscular sense? What the knowledge acquired by that sense?

3. "Our senses deceive us. A hill appears much nearer when seen across an arm of the sea than when viewed across an undulated plain; and a molehill appears a mountain in a mist. We cannot trust our senses, and what then can we trust?" How would you answer the scepticism involved in the above statement?

4. Give as full and accurate an analysis as you can of what seem to be our cognitions obtained in sense-perception and self-consciousness.

5. State precisely what is involved in the recognitive power of the mind. Is there faith in the exercise of memory? Is there knowledge? Show exactly how primitive faith differs from primitive cognition. Name some of the lower and some of the higher exercises of faith.

6. What is meant by analytic, and what by synthetic judgments? Who drew the distinction? Give examples of analytic judgments. Are they *a priori* or *a posteriori*? Are the judgments, "Two straight lines cannot enclose a space:" "Every thing that begins to be must have a cause," analytic or synthetic? Are they *a priori* or *a posteriori*? To what division of judgments do you refer them?

7. Can the doctrine of the existence of an original moral faculty be reconciled with the undoubted fact that men differ in their moral convictions? Append reasons to the answer you give.

8. What place does the idea, or phantasm, or conception, hold in emotion? What sort of ideas raise up emotion? On what principle may the emotions be divided most expediently and philosophically?

9. Can the metaphysician prove primitive truths? What then can he do in regard to them?

10. In what sense are intuitions innate? What is the difference between the spontaneous exercise and reflex use of intuitive principles? On what conditions are we entitled to make a reflex use of them.

11. What is the difference between our convictions as to a well-established law of nature—say the law of gravitation,—and our conviction as to such a law as that "every effect has a cause?"

12. Are the law of cause and effect, and the law of the uniformity of nature, one and the same? Is a miracle a violation of the law of cause and effect?

13. "Causality of the cause is ever again something that happens and renders necessary your *regressus* to a state of higher cause, consequently the prolongation of the series of phenomena *a parte priori* unceasingly? Who makes this statement? Examine it.

14. What qualities must meet in morally good action? Give an analysis of what is embraced in love considered as a virtuous affection.

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1. Name the philosophical works of Bacon. How does he divide and subdivide Science? What place does he allot to final cause? Offer remarks on final cause, and on Bacon's view of it.

2. Name the philosophical works of Descartes. What seems to be his doctrine of innate views? Examine it especially in regard to the idea of the Infinite, the Perfect.

3. Of what general subject does Locke treat in the Second Book of his Essay? From what sources does he derive all our ideas? How, according to Locke, do we get the idea of time? Criticise his doctrine on this special subject, and his general doctrine as to the origin of our ideas.

4. Name some of the writers of the French Sensational School. Wherein did they agree with Locke, and wherein did they differ from him? What is the moral and religious tendency of the doctrines of the French Sensational School?

5. What is the argument of Dr. S. Clarke in behalf of the existence of God? Offer comments. Is the argument *a priori* or *a posteriori*? In answering this question, explain *a priori* and *a posteriori*.

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General Class Examination.

6. Give as clear an account as you can of Leibnitz' doctrine of Pre-established Harmony in its connexion with his monadical theory. Say what truth there is in it, and what error and extravagance.

7. When and where was F. Hutcheson born, and where was he educated? What offices did he hold? What was his first work? What is his view of the moral faculty in man? What of virtue? What are the views of the moral power and of virtue given by S. Clarke and by Price?

8. Name the great work of Kant. When was it published? What is the view given by him of Cause and Effect? What sort of reality had Cause and Effect according to him?

9. Name the philosophic works of Reid. What does he mean when he says reason has two degrees? Name as many as you can remember of his Principles of Common Sense in regard to contingent truth, and offer comments.

10. What precisely is Reid's doctrine of Sense-Perception? In what respects does Sir W. Hamilton profess to correct and improve the doctrine of Reid on this subject?

11. Wherein did Dr. Thomas Brown's doctrine of Perception agree with, and wherein did it differ from, that of Reid? Offer comments on Brown's doctrine.

12. What precise form does Utilitarianism assume in the philosophy of Bentham? Offer comments.

13. What are the faculties, according to Cousin? State and critically examine his view of reason.

First Year Engineering Students.

Mineralogy and Geology.—*Examiner, Dr. Wyville Thomson.*

1. What substances are usually met with in *mechanical suspension*, and what in *solution*, in sea-water?

2. Describe the nature of mineral springs.

3. Describe the phenomena of a modern volcanic eruption, and enumerate and describe the more important products of volcanic action.

4. By what causes are dislocations of strata usually produced?

5. State the difference in mode of occurrence and in composition between chalk and gypsum.

6. Mention and describe the orders of Invertebrata which have become *extinct*.

7. Describe minutely the structure and zoological relations of the genus Belemnites, and mention the geological formations of which it is specially characteristic.

Geometrical Drawing.—*Examiner, Professor James Thomson.*

The examination comprised questions in Descriptive Geometry and Perspective, together with a scrutiny of drawings executed during the Session.

Second Year Engineering Students.

Practical Mechanics.—*Examiner, Dr. Stevelly.*

1. The ram of a pile engine weighs 17 cwt., and has a fall of 35 feet, calculate the number of units of work performed each time the ram is raised.

2. A dynamometer shows that a horse drawing a certain load on a level road, the coefficient of friction on which is found to be one-twelfth, is exerting a tractive force of 150 lbs. when moving at $2\frac{1}{2}$ miles an hour. What is the load on the cart? and how many units of work is the horse performing each minute? How could the co-efficient of friction of that cart on that road be actually determined?

3. A man of eleven stone weight runs a mile in eight minutes; each step he

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General Class Examination.

takes is a yard and a-quarter long, and the curve his centre of gravity describes rises and falls an inch and a-half each step. What part of the work of a horse has he performed in the journey?

4. How many units of work were performed in raising to their places the materials of a wall 60 feet long, 12 feet high, and 2 feet thick; the mean density of the materials being $2\frac{1}{2}$ to water 1?

5. There were 4,500 cubic feet of water in a mine whose depth was 56 fathoms, when an engine of 70-horse power began to work the pumps; the modulus of the engine and pump was 0·66. The engine continued to work five hours before the mine was cleared. How many cubic feet of water ran into the mine per hour?

6. It is found that the tension of the tow-rope of a certain loaded boat, drawn by a horse along a canal, is 33 lbs., when reduced to the direction in which the boat was moving at the rate of two miles an hour. How many horse-power must the steam-engine exert that would propel that boat at 16 miles an hour?

7. What fact, ascertained experimentally, proves that high pressure steam is more economical than low pressure? Explain how the conclusion is deduced.

8. On what supposition only can Boyle's or Marriotte's law be applied, when calculating the work of steam used expansively? And what circumstance renders the use of that law allowable in practice?

9. From the general expression for the ratio of the sliding to the actual motion round either centre in contact connexion, deduce the expression when the pieces are the teeth on two wheels, which are involutes of their respective pitch circles.

10. I require to put bevel wheels on two shafts, which are inclined at an angle θ, so that the angular velocity round A shall be to that round B, as α to β: find some trigonometrical function of the angle of the cone, to which either frustum must be described, suited to logarithmic calculation.

11. An overshot water-wheel is of the mean diameter height D; it receives water at the angular distance from its highest point α, from a stream which delivers W lbs. of water per minute upon the wheel; the buckets empty at the mean angular distance $\acute{\alpha}$, from the lowest point of the wheel. Deduce the expression for the gross horse-power of the wheel, and explain what circumstances in practice limit α and $\acute{\alpha}$.

12. The ram of a Brahma's Press is 9 inches diameter; the plunger of its smallest pump is $\frac{3}{4}$-inch diameter; the lever which works the pump is a bar, which permits the workman, who weighs $11\frac{1}{2}$ stone, to lay on his weight four feet from the pin, which is the fulcrum, and which is three inches from the plunger of the pump. What gross pressure can the man exert by the aid of this press?

DRAWING.—*Examiner, Professor James Thomson.*

The examination comprised the following questions, together with a scrutiny of drawings executed during the Session.

1. Two straight lines and a point being given by their projections, explain how the projections may be found of a straight line passing through the given point, and intersecting both the given lines.

2. Given the projections of a straight line, it is required to find the angles which it makes with the planes of projection.

3. Give a diagram, accompanied by brief explanations, indicating the method described by Monge (in Heather's Translation) for constructing a perspective representation when the picture surface is perpendicular to both planes of projection.

4. In perspective:—Explain what is meant by the *measuring point*, and what by the *vanishing point*, of any set of parallel horizontal original straight lines, and give a diagram explanatory of the principle on which the employment of *measuring points* depends.

5. Explain the distinction between an ordinary perspective and an ordinary panoramic representation of an object, and describe the chief features or peculiarities of the panoramic representations of two parallel straight lines, infinite in length in both directions.

6. Given the isometrical projection of a cube; show how to find the length of a side of the cube.

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General Class Examination.

7. Given the plan (or horizontal projection) of the intrados of an oblique arch semi-circular in its direct section (or section made by a plane perpendicular to the axis of the cylindric surface of the intrados); it is required to show how to construct the development of the soffit.

Civil Engineering.—*Examiner, Professor James Thomson.*

1. Describe the peculiar construction of the American bridges known as Town's Lattice Bridges.

2. Describe some of the chief features of the Niagara Suspension Bridge.

3. If the line of resistance in a stone arch pass midway between the top and bottom of the keystone in cold weather, how will its position be changed when the weather becomes warm?

4. Give reasons why the stresses in the various parts of cast-iron arches of ordinary construction are necessarily excessively indeterminate and variable, and explain, according to the lectures, a structural alteration by which this objection may be overcome.

5. Describe the nature and use of the *Schedule of Prices* commonly appended to a Specification.

6. Describe briefly the chief properties of Roman and Portland Cements, and the usual modes of their manufacture.

7. Counting that a brick of ordinary size, with its mortar, will occupy a space of 9 × 4½ × 3 in., find how many bricks will be required to build a cubic yard, and how many to build the reduced or standard rod of brick-work.

8. In respect to puddle walls of coffer-dams, describe some of the chief precautions which usually ought to be taken in order to make them water-tight and secure, and point out ways in which failures have sometimes arisen.

9. Give sketches of the eight regular mouldings of Classical Architecture, with their names.

10. What are the two principal varieties of flutings of columns? Which kind is used in the Doric Order.

11. What are Triglyphs? In what Order are they used, and how?

12. Distinguish between the Corinthian, the Composite, and the Ionic Orders.

13. In Engineering investigations as to the suitableness of proposed sources of supply of water for towns, what are some of the usual modes of testing or estimating the sufficiency of the sources in amount? Describe also some of the usual modes of proceeding to determine the suitableness of the sources as to purity. How may the high or low level of the sources affect the choice among them.

14. How are the coursing beds and heading beds of the voussoirs of oblique arches formed according to the system prescribed by Buck, and how do the coursing and heading joints in the intrados lie relatively to one another?

Agriculture.—*Examiner, Dr. Hodges.*

THEORY OF AGRICULTURE.

1. Give a statement of the views of Liebig on the absorbent qualities of soils.
2. State the purposes served by water in the nutrition of plants.
3. Explain the chemical theory of the rotation of crops.
4. How may the usual adulterations of guano be detected?
5. State the average amount of Phosphates contained in the following manures:—Bone Dust, Peruvian Guano, Patagonian Guano.

PRACTICE OF AGRICULTURE.

1. Describe the operations required in draining a field on the system recommended by Smith of Deanston.
2. Give an account of the methods of irrigation.
3. State the operations required to prepare a field for the Flax crop.

HISTORY AND DISEASES OF FARM ANIMALS.

1. Describe the anatomical structure of the foot of the Horse.
2. Write a formula for a blister.
3. State the precautions required in the management of fattening cattle.

FACULTY OF MEDICINE.

FRENCH.—*Examiner, Professor Dr. Frings.*

L'expiration est généralement moins laborieuse que l'inspiration. Dans les phénomènes ordinaires de la respiration, le retour au repos des agents actifs de l'inspiration et l'élasticité des poumons suffisent, en grande partie, pour la déterminer. Le cadavre, sur lequel le jeu des puissances musculaires a cessé, est *à l'état d'expiration.* Mais l'expiration nécessite souvent l'intervention de puissances actives. Ainsi, dans les expirations profondes et prolongées, les muscles dits expirateurs agissent en sens opposé des muscles inspirateurs, et peuvent diminuer les divers diamètres de la poitrine. Dans beaucoup de circonstances, l'expiration devient un phénomène complexe et nécessite, d'une manière évidente, l'intervention de puissances musculaires variées. Tels sont les efforts de la phonation et du chant, dans lesquels le courant de sortie de l'air est gradué, retardé, accéléré, etc.; tels sont les efforts violents des excrétions, de l'exercice musculaire, etc., dans lesquels l'air est momentanément conservé dans la poitrine dilatée, et d'où il s'échappe ensuite brusquement, quand l'effort a cessé. Tels sont encore une foule d'autres actes, tels que le bâillement, la toux, le rire, l'éternument, etc., dans lesquels interviennent et les agents de l'expiration et ceux de l'inspiration, et sur lesquels nous reviendrons plus loin.

The fundamental vital action of assimilation and nutrition is in all cases attended with the formation of certain substances, which act as poisons if retained, and which are, therefore, uniformly *excreted* from the system, or at least from the nourishing fluid. The carbonic acid, thrown off from all living beings, the bile, urine, &c., of animals, and the proper juices, resins, and oils of vegetables, are of this kind.

As the reception of nourishment into living bodies is connected with a continual process of deposition or nutrition, so the excretions from the animal body are believed to be connected with a continual interstitial absorption; but the case of vegetables shows that such absorption is not a necessary prelude to excretion. There must evidently be certain general laws which determine the noxious qualities, and the expulsion of certain compounds, as well as the nutritious qualities, and appropriation of others, although the same chemical elements are contained in both, but no such general principles have as yet been clearly ascertained. In the excretions, the chemical elements are disposed to form crystalline compounds; but whether this is because they have escaped from the dominion of vital laws, or whether they are excreted because they have become fitted for forming such compounds, is uncertain.

BOTANY.—*Examiner, Dr. Wyville Thomson.*

1. Describe the principal modifications of *Parenchyma.*
2. In what part of the Exogenous stem are spiral vessels chiefly found.
3. What is the character, and what are the functions of the cambium layer?
4. Describe the structure of the termination of a root.
5. Give the characters and therapeutic properties of the Natural Order *Papaveraceæ.*
6. Refer the following British Genera to their Natural Orders :—*Cichorium, Betula, Arum, Anemone, Atropa, Hyoscyamus, Scilla.*
7. In what plants do we meet with *silica* most abundant?

HONOR QUESTIONS.

8. Describe minutely the development and structure of the stamen, of the anther, and of the pollen.
9. Describe the mode of reproduction in the *Desmideæ.*

Appendix No. 8.

General Class Examination.

CHEMISTRY.—*Examiner, Dr. Andrews.*

1. Explain by symbols the reactions which take place when oxygen gas is prepared by the action of heat on MnO_2 and KO, ClO_5.

2. What are the properties of the peroxide of hydrogen, and how is it prepared?

3. Describe the principal reactions of ozone, and the conditions under which it is formed.

4. Give a particular description of the method of analysing atmospheric air by means of hydrogen gas.

5. What bodies have been found in atmospheric air besides oxygen, nitrogen, and carbonic acid?

6. Give a full account of the reactions which occur when solutions of the common phosphate of soda and of the pyrophosphate of soda are mixed with a solution of the nitrate of silver.

7. What is the composition of the fluoride of silicium? Explain also by symbols the formation of hydrofluosilicic acid and of silica, which takes place when fluoride of silicium comes into contact with water.

8. Give an account of the causes of explosions in coal mines. State the composition of "fire damp" and of "choke damp," and in what proportions the former must be mixed with atmospheric air in order to produce the greatest explosive effect.

9. Give some account of hydrocyanic acid; its preparation, properties, and tests.

10. What is the composition of gunpowder, and the principal products which are formed when it explodes?

11. State the composition and principal properties of cellulose; describe particularly the action of strong nitric acid upon it.

12. Give an account of the fermentation of sugar, and of all the products, according to recent researches, of that fermentation.

13. If $C=12$, $H=1$, $N=14$, $O=16$, $Cl=35{\cdot}5$, $K=39$; what are the formulas of the following bodies:—water, hydrochloric acid, alcohol, ether, nitrate of potash?

14. What are the four types to which Gerhardt refers organic compounds? Illustrate them by writing the formulas, according to this view, of methyl, ethyl, marsh gas, wood spirit, alcohol, hydrochloric ether, and ethylamine.

15. If a given quantity of gas in the moist state, at the temperature of 10° C., and under a pressure of 28 inches, measure 150 cubic inches, what volume would it occupy in the dry state at 0° C., and under a pressure of 30 inches (tension of watery vapour at 10° C., 0·36 inches; coefficient of expansion for 1° C., 0·00366)?

16. How is the latent heat of water determined?

17. Describe the method usually employed by chemists to take the densities of vapours, and state how it has been recently applied to the determination of vapour-densities at very high temperatures.

18. Explain the source of cold in evaporation.

19. Give an account of the method of determining the electrical force of a voltaic couple.

20. What is the theory of the electrophorus?

21. What are the effects produced by an electrical current when traversing an electrolyte?

22. Describe Daniell's and Grove's forms of the Voltaic Battery, and state the chemical actions which take place in them when the current is passing.

23. Give an account of Voltaic induction, and of the construction of Ruhmkorff's machine.

24. What is the action of a powerful magnet on bismuth and other diamegnetic bodies?

MATERIA MEDICA.—*Examiner, Dr. James Seaton Reid.*

1. Describe the meaning of "Expectorant Medicines."
2. How are they classified?
3. Enumerate the expectorants belonging to each class.
4. Write a prescription for each expectorant.

5. State the number and kind of the natural secretions from the air passages, and how they are altered by disease.

6. In prescribing an expectorant, what should the prescriber first endeavour to decide with regard to his patient?

7. What meaning are you to attach to "Cough" as a symptom, and what errors in prescribing has an incorrect interpretation of its meaning led to?

8. State four of the most frequent causes of cough.

9. Write a prescription for each of the four diseased states of which cough may be a symptom, and in which an "expectorant medicine" may be appropriate, attaching the letters B. A. C., &c., to the articles that may be called "baso," "adjurant," &c.

10. Write prescriptions for effervescing mixtures (6 oz.) of Bi-Carbonate Potash with Citric and Tartaric Acids.

11. Name the medicines on the table, and classify them therapeutically.

SURGERY.—*Examiner, Dr. Gordon.*

1. Describe the various forms of hydrocele, their different diagnosis, and treatment.

2. Describe the various apparatus in use for the treatment of fractures of the leg; their respective merits as applicable to special displacements, and the circumstances which determine the seat of fracture of the fibula.

3. Describe the conditions which indicate the external or perineal incision in cases of stricture of the urethra, and also the operation and after-treatment.

4. Describe the appearances, the constitutional and local treatment of an ulcer or wound attacked by hospital gangrene.

5. Describe the treatment of an incised wound, such as that after an amputation of the thigh, from its commencement until its complete cicatrization.

MEDICAL JURISPRUDENCE.—*Examiner, Dr. Hodges.*

1. Describe the method of preparing Nicotine, and the processes required for its identification.

2. What are the processes employed for the detection of Phosphorus in cases of suspected poisoning?

3. Give a statement of the characteristic symptoms produced by a poisonous dose of Hydrocyanic Acid.

4. What are the precautions to be observed in the examination of gunshot wounds?

5. How is Chloroform detected?

6. State the minimum doses in which the following substances have been found to produce death:—Arsenic, Corrosive Sublimate, Antimony Opium, Phosphorus.

7. Describe the methods employed for the examination of supposed blood stains.

SPECIAL PRIZE EXAMINATION.

LATIN.—*Examiner, Professor Reichel.*

Special Prize.

To be translated into Latin prose:—

But among these and other excellent arguments for the immortality of the soul, there is one drawn from the perpetual progress of the soul to its perfection, without a possibility of ever arriving at it: which is a hint that I do not remember to have seen opened and improved by others who have written on this subject, though it seems to me to carry a great weight with it. How can it enter into the thought of man that the soul, which is capable of such immense perfections, and of receiving her improvements to all eternity, shall fall away into nothing

Appendix No. 8.

General Class Examination.

almost as soon as it is created? Are such abilities made for no purpose? A brute arrives at a point of perfection that he can never pass: in a few years he has all the endowments he is capable of: and were he to live ten thousand more, would be the same thing he is now. Were a human soul thus at a stand in her accomplishments, were her faculties to be full-blown and incapable of further enlargements, I could imagine it might fall away insensibly, and drop at once into a state of annihilation. But can we believe a thinking being, that is in a perpetual progress of improvements, and travelling on from perfection to perfection, after having just looked abroad into the works of its Creator, and made a few discoveries of his infinite goodness, wisdom, and power, must perish at her first setting out, and in the beginning of her inquiries?—ADDISON.

Special Prize.

Translate into English the following passages:—

Virgil—Georgics, Book I., lines 257–275.

Livy—Book XXII., Chapter 9, beginning at the words—Q. Fabius Maximus dictator, to end of chapter.

Cicero—Epistolae ad Atticum, Lib. III., Ep. 7, to end of first section.

Terence—Phormio, lines 682–712.

Horace—Epistolae, Lib. I., Epistola 17, lines 46–62.

Special Prize.

1. When is the ablative of comparison (major eo) not used?

2. When are *antequam* and *priusquam* used with the indicative, and when with the subjunctive?

3. With what difference are the genitive and ablative used in expressing price, value?

4. Express in Latin: Three hundred of us have conspired together: your friends, of whom you have many.

5. Distinguish between *foeneror tibi* and *foeneror a te*: between *moderor* with the dative, and the same with the accusative: between *literas dare alicui* and *literas dare ad aliquem*: between *vacare rei* and *vacare re*.

6. What is the meaning of nouns in *—etum* and *—ile?* of nouns in *—bulum* and *—culum?* and how are these last terminations modified in certain cases? Give examples.

7. Give the derivations of the following words: *causa*, *sequester*, *fungor*, *carmen*, *templum*, *crimen*.

8. How are derivative and inceptive verbs formed?

9. Express in Latin, with the word *literae*, one epistle, two, three epistles.

10. Write out in Latin words the following expressions:

HSIↃↃↃCCC HSXXXXCIↃ HSCIↃCIↃC.

Matriculation Examination.

MATRICULATION EXAMINATION.—OCTOBER, 1861.

LATIN.—*Examiner, Rev. Dr. Reichel.*

Translate accurately two of the following passages, *taking them from different authors:—*

HORACE—ODES, I.

Scriberis Vario fortis et hostium
Victor Maeonii carminis alite,
Quam rem cunque ferox navibus aut equis
    Miles te duce gesserit:

Nos, Agrippa, neque haec dicere, nec gravem
Pelidae stomachum cedere nescii,
Nec cursus duplicis per mare Ulixei,
    Nec saevam Pelopis domum

Conamur tenues grandia, dum pudor
Imbellisque lyrae Musa potens vetat
Laudes egregii Caesaris et tuas
Culpa deterere ingeni.

Quis Martem tunica tectum admantina
Digne scripserit? aut pulvere Troico
Nigrum Merionon, aut ope Palladis
Tydiden superis parem?

Nos convivia, nos proelia virginum
Sectis in juvenes unguibus acrium
Cantamus vacui, sive quid urimur,
Non praeter solitum leves.

HORACE—ODES, III.

Martiis caelebs quid agam Kalendis,
Quid velint flores et acerra thuris
Plena, miraris, positusque carbo in
Cespite vivo,

Docte sermones utriusque linguae?
Voveram dulces epulas et album
Libero caprum prope funeratus
Arboris ictu.

Hic dies anno redeunte festus
Corticem adstrictum pice dimovebit
Amphorae fumum bibere institutae
Consule Tullo.

Sume, Maecenas, cyathos amici
Sospitis centum et vigiles lucernas
Perfer in lucem: procul omnis esto
Clamor et ira.

Mitte civiles super urbe curas:
Occidit Daci Cotisonis agmen,
Medus infestus sibi luctuosis
Dissidet armis,

Servit Hispanae vetus hostis orae
Cantaber sera domitus catena,
Jam Scythae laxo meditantur arcu
Cedere campis.

Neglegens, ne qua populus laboret,
Parce privatus nimium cavere:
Dona praesentis cape laetus horae et
Linque severa.

HORACE—SATIRES, I.

Eupolis atque Cratinus Aristophanesque poëtae
Atque alii, quorum comoedia prisca virorum est,
Si quis erat dignus describi, quod malus ac fur,
Quod moechus foret aut sicarius aut alioqui
Famosus, multa cum libertate notabant.
Hinc omnis pendet Lucilius, hosce secutus
Mutatis tantum pedibus numerisque, facetus,
Emunctae naris, durus componere versus,
Nam fuit hoc vitiosus: in hora saepe ducentos,
Ut magnum, versus dictabat stans pede in uno.

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Matriculation Examination.

Cum flueret lutulentus, erat quod tollere velles;
Garrulus atque piger scribendi ferre laborem,
Scribendi recte: nam ut multum, nil moror. Ecce,
Crispinus minimo me provocat: Accipe, si vis,
Accipiam tabulas; detur nobis locus, hora,
Custodes; videamus uter plus scribere possit.
Di bene fecerunt, inopis me quodque pusilli
Finxerunt animi, raro et perpauca loquentis.

VIRGIL—ÆNEID, Book I.

Obstupuit primo adspectu Sidonia Dido,
Casu deinde viri tanto; et sic ore locuta est:
Quis te, nate deâ, per tanta pericula casus
Insequitur? quæ vis immanibus applicat oris?
Tune ille Æneas, quem Dardanio Anchisæ
Alma Venus Phrygii genuit Simoëntis ad undam?
Atque equidem Teucrum memini Sidona venire,
Finibus expulsum patriis, nova regna petentem
Auxilio Beli: genitor tum Belus opimam
Vastabat Cyprum, et victor ditione tenebat.
Tempore jam ex illo casus mihi cognitus urbis
Trojanæ, nomenque tuum, regesque Pelasgi.
Ipse hostis Teucros insigni laude ferebat,
Seque ortum antiquâ Teucrorum ab stirpe volebat.
Quare agite, O, tectis, juvenes, succedite nostris.
Me quoque per multos similis fortuna labores
Jactatam, hâc demum voluit consistere terrâ.
Non ignara mali, miseris succurrere disco.
Sic memorat: simul Ænean in regia ducit
Tecta; simul divûm templis indicit honorem.
Nec minus interea sociis ad litora mittit
Viginti tauros, magnorum horrentia centum
Terga suum, pingues centum cum matribus agnos,
Munera lætitiamque dii.

VIRGIL—ÆNEID, Book III.

Postquam altum tenuere rates, nec jam amplius ullæ
Apparent terræ, cœlum undique et undique pontus;
Tum mihi cæruleus supra caput astitit imber,
Noctem hiememque ferens, et inhorruit unda tenebris.
Continuo venti volvunt mare, magnaque surgunt
Æquora: dispersi jactamur gurgite vasto.
Involvere diem nimbi, et nox humida cœlum
Abstulit; ingeminant abruptis nubibus ignes.
Excutimur cursu et cæcis erramus in undis.
Ipse diem noctemque negat discernere cœlo,
Nec meminisse viæ mediâ Palinurus in undâ.
Tres adeo incertos cæcâ caligine soles
Erramus pelago, totidem sine sidere noctes.
Quarto terra die primum se attollere tandem
Visa, aperire procul montes, ac volvere fumum.
Vela cadunt; remis insurgimus; haud mora, nautæ
Annixi torquent spumas, et cærula verrunt.
Servatum ex undis, Strophadum me litora primum
Accipiunt: Strophades Graio stant nomine dictæ
Insulæ Ionio in magno, quas dira Celæno,
Harpyiæque colunt aliæ, Phineïa, postquam
Clausa domus, mensasque metu liquere priores.
Tristius haud illis monstrum, nec sævior ulla
Pestis et ira deûm Stygiis sese extulit undis.
Virginei volucrum vultus, fœdissima ventris
Proluvies, uncæque manus, ei pallida semper
Ora fame.

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Matriculation Examination.

VIRGIL—ÆNEID, Book VIII.

O! mihi præteritos referat si Jupiter annos;
Qualis eram, quum primam aciem Præneste sub ipsâ
Stravi, scutorumque incendi victor acervos,
Et regem hâc Herilum dextrâ sub Tartara misi;
Nascenti cui tres animas Feronia mater,
Horrendum dictu! dederat, terna arma movenda
Ter leto sternendus erat; cui tunc tamen omnes
Abstulit hæc animas dextra, et totidem exuit armis:
Non ego nunc dulci amplexu divellerer usquam,
Nate, tuo; neque finitimo Mezentius umquam,
Huic capiti insultans, tot ferro sæva dedisset
Funera, tam multis viduasset civibus urbem,
At vos, O superi! et divûm tu maxime rector
Jupiter! Arcadii, quæso, miserescite regis,
Et patrias audite preces: Si numina vestra
Incolumem Pallanta mihi, si fata reservant,
Si visurus eum vivo, et venturus in unum;
Vitam oro: patiar quemvis durare laborem.
Sin aliquem infandum casum, Fortuna, minaris;
Nunc, O nunc! liceat crudelem abrumpere vitam,
Dum curæ ambiguæ, dum spes, incerta futuri,
Dum te, care puer, mea sera et sola voluptas,
Complexu teneo: gravior neu nuntius aures
Vulneret. Hæc genitor digressu dicta supremo
Fundebat: famuli collapsum in tecta ferebant.

CÆSAR, Lib. I.

Quamobrem placuit ei, ut ad Ariovistum legatos mitteret, qui ab eo postularent, uti aliquem locum medium utriusque colloquio deligeret: velle sese de republica et summis utriusque rebus cum eo agere. Ei legationi Ariovistus respondit: "Si quid ipsi a Cæsare opus esset, sese ad eum venturum fuisse; si quid ille se velit, illum ad se venire oportere. Præterea se neque sine exercitu in eas partes Galliæ venire audere, quas Cæsar possideret; neque exercitum sine magno commeatu atque molimento in unum locum contrahere posse: sibi autem mirum videri, quid in sua Gallia, quam bello vicisset, aut Cæsari, aut omnino Populo Romano negotii esset."

CÆSAR, Lib. III.

Brevi spatio interjecto, vix ut his rebus, quas constituissent, collocandis atque administrandis tempus daretur, hostes ex omnibus partibus, signo dato, decurrere, lapides gæsaque in vallum conjicere: nostri primo integris viribus fortiter repugnare, neque ullum frustra telum ex loco superiore mittere: ut quæque pars castrorum nudata defensoribus premi videbatur, eo occurrere et auxilium ferre: sed hoc superari, quod diuturnitate pugnæ hostes defessi prœlio excedebant, alii integris viribus succedebant: quarum rerum a nostris propter paucitatem fieri nihil poterat; ac non modo defesso ex pugna excedendi, sed ne saucio quidem ejus loci, ubi constiterat, relinquendi, ac sui recipiendi, facultas dabatur.

CÆSAR, Lib. V.

Postridie ejus diei mane tripartito milites equitesque in expeditionem misit, ut eos, qui fugerant, persequerentur. His aliquantum itineris progressis, cum jam extremi essent in prospectu, equites a Quinto Atrio ad Cæsarem venerunt, qui nunciarent, superiore nocte, maxima coorta tempestate, prope omnes naves afflictas atque in littore ejectas esse; quod neque anchoræ funesque subsisterent, neque nautæ gubernatoresque vim pati tempestatis possent: itaque ex eo concursu navium magnum esse incommodum acceptum.

SALLUST—CATILINA.

Postea Piso in citeriorem Hispaniam quaestor pro praetore missus est, adnitente Crasso, quod eum infestum inimicum Cn. Pompeio cognoverat. Neque tamen senatus provinciam invitus dederat: quippe foedum hominem a republica

Appendix No. 8.

Matriculation Examination.

procul esse volebat: simul, quia boni cum plures praesidium in eo putabant: et jam tum potentia Cn. Pompeii formidolosa erat. Sed is Piso, in provincia ab equitibus Hispanis, quos in exercitu ductabat, iter faciens occisus est. Sunt qui ita dicant, imperia ejus injusta, superba, crudelia, barbaros, nequivisse pati: alii autem equites illos, Cn. Pompeii veteres fidosque clientes, voluntate ejus Pisonem adgressos; nunquam Hispanos praeterea tale facinus fecisse, sed imperia saeva multa antea perpessos. Nos eam rem in medio relinquemus. De superiore conjuratione satis dictum.

SALLUST—JUGURTHA.

Ea tempestate Romae seditionibus tribuniciis atrociter respublica agitabatur. P. Lucullus et L. Annius, tribuni plebis, resistentibus collegis, continuare magistratum nitebantur: quae dissensio totius anni comitia impediebat. Ea mora in spem adductus Aulus, quem pro praetore in castris relictum supra diximus, aut conficiundi belli, aut terrore exercitus ab rege pecuniae capiundae, milites mense Januario ex hibernis in expeditionem evocat: magnis itineribus, hieme aspera, pervenit ad oppidum Suthul, ubi regis thesauri erant. Quod quamquam et saevitia temporis, et opportunitate loci, neque capi, neque obsideri poterat (nam circum murum, situm in praerupti montis extremo, planities limosa hiemalibus aquis paludem fecerat), tamen, aut simulandi gratia, quo regi formidinem adderet, aut cupidine caecus, vineas agere, aggerem jacere, alia, quae incepto usui forent, properare.

MATHEMATICS—*Examiner, Professor Slesser.*

ARITHMETIC.

1. A man has £15 8*s*. 6*d*., he lends £10 10*s*. 4*d*., and gives away £4 3*s*. 4*d*.: he afterwards receives back two-thirds of what he lent, and three-fifths of what he gave away. How much has he then in possession?

2. Reduce the following expressions to their simplest forms:

$$\frac{3}{4} \text{ of } \frac{18}{23} \text{ of } \frac{16}{81}, \text{ and } \frac{2\frac{1}{4}}{2\frac{3}{4}} \times \frac{\frac{2}{3}+\frac{4}{5}}{6+\frac{3}{4}}.$$

3. State the rule for the multiplication of one decimal fraction by another. Multiply 1·25 by ·256, and 3·8466 by 1·53, also divide 1 by ·03125.

4. Find the square of 1·7088, and the square root of 10·3169445.

5. If a class of workmen receiving wages at the rate of 20*s*. per week, demand an increase to 21*s*., and are on strike for 26 weeks on refusal of their demand, but at the end of that time receive the desired addition; it is required to find how long they must receive the increased wages before the loss of wages during the strike is compensated for,—the interest of sums during the period being neglected.

6. If a commodity worth 5½*d*. per lb. be kept for half a year at an expense of 1*s*. per cwt., at what price per lb. must it then be sold, so as to gain 8 per cent per annum on the money invested in the commodity?

ALGEBRA.

1. If $a=1$, $b=2$, $c=3$, find the numerical values of

$$\frac{a^2-b^2+c^2}{(b+c-a)^2};\ \frac{(b-a)(c-a)}{(c-b)^2};\ \sqrt{\frac{c^2+8ab}{c^2+4ab+a^2}};$$
$$a-2\{b-(c-a)\}.$$

2. Multiply together the expressions $x-2y$, x^2+4y^2, $x+2y$, x^4+16y^4, and divide a^4+4a^2+16 by $4+2a+a^2$.

3. Add together $(a+b+c)^2$, $(a-b)^2$, $(a-c)^2$, and $(b-c)^2$.

Also $(a-2x)^2$, $4\left(\frac{a}{2}+x\right)^2$, $(a-2x)(a+2x)$.

4. Divide $\frac{x^4}{3}-27$ by $1+\frac{x}{3}$ and $x^{\frac{1}{3}}+y^{\frac{1}{3}}$ by $x^{\frac{1}{3}}+y^{\frac{1}{3}}$.

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Matriculation Examination.

5. Solve the following simple equations:

(1) $\frac{x}{2}-\frac{x}{3}+\frac{x}{4}=10.$

(2) $x-\left\{\frac{1-x}{2}-2\frac{5-3x}{3}\right\}=2-\frac{2x-1}{3}.$

(3) $\frac{x}{x-2}=3-\frac{3-x}{x-2}.$

(4) $\frac{2x-a}{x+a}=2\frac{x-b}{x+b}.$

Scholarship Examinations.

SCHOLARSHIP EXAMINATIONS.—OCTOBER, 1861.

LITERARY SCHOLARSHIPS.—FIRST YEAR STUDENTS.

GREEK.—*Examiner, Professor MacDouall.*

I.—1. Translate the following lines of the *Ilias*:—

τοῖς δὲ βαρὺ[3] στενάχων[3] μετέφη Ἀγαμέμνων
χειρὸς[3] ἔχων Μενέλαον· ἐπεστενάχοντο δ’ ἑταῖροι·
“φῖλε κασίγνητ’![2] ἐς θάνατόν νύ τοι[1] ὅρκι’[2] ἔταμνον,[1]
οἶον[1] προστήσας σέ γ’ Ἀχαιῶν Τρωσὶ μάχεσθαι,
ὥς σ’ ἔβαλον Τρῶες, κατὰ δ’ ὅρκια πιστὰ[2] πάτησαν.[1]
οὐ μήν πως ἅλιον[2] πέλει ὅρκιον αἷμά τε ἀρνῶν[1]
σπονδαί τ’ ἄκρητοι[2] καὶ δεξιαί[3] ᾗς ἐπέπιθμεν.
εἴ περ γάρ τε[1] καὶ αὐτίκ’ Ὀλύμπιος οὐκ ἐτέλεσσεν,
ὀψὲ καὶ ἐκτελέει,[1] μεγάλ’ ὥςτ’ ἀπάτην ἀποτῖσαι[1]
σὺν σφῇσιν κεφαλῇσι γυναιξί τε καὶ τεκέεσσιν.
εὖ γὰρ ἐγὼ τόδε οἶδα κατὰ φρένα καὶ κατὰ θυμόν·
ἔσσεται ἦμαρ ὅτ’ ἄν ποτ’ ὀλώλῃ[1 & 3] Ἴλιος ἱρὴ
καὶ Πρίαμος καὶ λαὸς ἐυμμελίω[2] Πριάμοιο,
Ζεὺς δέ σφιν Κρονίδης ὑψίζυγος,[2] αἰθέρι[3] ναίων,
αὐτὸς ἐπισσείῃσιν[3] ἐρεμνὴν[2] αἰγίδα[2] πᾶσιν
τῆσδ’ ἀπάτης[3] κοτέων. τὰ μὲν ἔσσεται οὐκ ἀτέλεστα·
ἀλλά μοι αἰνὸν ἄχος σέθεν[3] ἔσσεται, ὦ Μενέλαε!
εἴ κε θάνῃς[3] καὶ πότμον ἀναπλήσῃς[1] βιότοιο.
καί κεν ἐλέγχιστος πολυδίψιον[2] Ἄργος ἱκοίμην·[3]
αὐτίκα γὰρ μνήσονται Ἀχαιοὶ πατρίδος αἴης,[3]
κὰδ δέ κεν εὐχωλὴν Πριάμῳ καὶ Τρωσὶ λίποιμι
Ἀργείην Ἑλένην. σέο δ’ ὀστέα πύσει[1] ἄρουρα
κειμένου ἐν Τροίῃ ἀτελευτήτῳ ἐπὶ ἔργῳ.
καί κέ τις ὧς εἴποι Τρώων ὑπερηνορεόντων
τύμβῳ ἐπιθρώσκων[1] Μενελάου κυδαλίμοιο·
‘εἴθ’ οὕτως ἐπὶ πᾶσι χόλον τελέσει’[1 & 3] Ἀγαμέμνων,
ὡς καὶ νῦν ἅλιον[2] στρατὸν ἤγαγεν ἐνθάδ’ Ἀχαιῶν,
καὶ δὴ ἔβη οἰκόνδε[1] φίλην ἐς πατρίδα γαῖαν
κεινῇσι[1] ξὺν νηυσὶ λιπὼν ἀγαθὸν Μενέλαον!’
ὧς ποτέ τις ἐρέει· τότε μοι χάνοι[1 & 3] εὐρεῖα χθών!”
    τὸν δ’ ἐπιθαρσύνων προςέφη ξανθὸς Μενέλαος·
“θάρσει, μηδέ τί πω δειδίσσεο[1] λαὸν Ἀχαιῶν.
οὐκ ἐν καιρίῳ[2] ὀξὺ πάγη[1] βέλος, ἀλλὰ πάροιθεν
εἰρύσατο[1] ζωστήρ[2] τε παναίολος ἠδ’ ὑπένερθεν[2]
ζῶμά τε καὶ μίτρη, τὴν[1 & 3] χαλκῆες κάμον[1] ἄνδρες.”

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Scholarship Examinations.

2. Parse fully and accurately the words thus numbered,—distinguishing any that may be written in exactly or nearly the same way,—and substitute Attic prose forms or vocables for such as are exclusively Homeric or poetic.

3. Mention the derivation or composition of all words thus numbered,—discussing doubtful cases,—distinguishing words written in exactly or nearly the same way,—and for such as are not used in Attic prose substituting such as are.

4. Elucidate fully the construction of the words or phrases thus numbered.

5. Explain the Homeric use of the distinctive pronoun or article.

6. Exemplify, from the lines given above, various characteristics of Homeric versification, and show how some apparently objectionable *hiatus* are to be remedied.

II.—1. Translate accurately the following passage from XENOPHON's *Anabasis* :—

"Ἔλεξεν οὖν Ξενοφῶν ὅτι[1] "δοκεῖ παύσαντας τὴν φάλαγγα λόχους ὀρθίους ποιῆσαι· ἡ μὲν γὰρ φάλαγξ διασπασθήσεται εὐθύς. τῇ μὲν γὰρ ἄνοδον τῇ δὲ εὔοδον εὑρήσομεν τὸ ὄρος· καὶ εὐθὺς τοῦτο ἀθυμίαν ποιήσει, ὅταν τεταγμένοι εἰς φάλαγγα ταύτην διεσπασμένην ὁρῶσιν. ἔπειτα, ἢν μὲν ἐπὶ[2] πολλοὺς[2] τεταγμένοι[2] προςάγωμεν, περιττεύσουσιν[3] ἡμῶν[3] οἱ πολέμιοι καὶ τοῖς περιττοῖς χρήσονται[4] ὅ τι[4] ἂν βούλωνται·[4] ἐὰν δὲ ἐπ'[2] ὀλίγων[2] τεταγμένοι[2] ἴωμεν, οὐδὲν ἂν εἴη θαυμαστὸν εἰ διακοπείη ἡμῶν ἡ φάλαγξ ὑπὸ ἀθρόων βελῶν καὶ ἀνθρώπων πολλῶν ἐμπεσόντων· εἰ δέ πῃ τοῦτο ἔσται, τῇ ὅλῃ φάλαγγι κακὸν ἔσται. ἀλλά μοι δοκεῖ ὀρθίους τοὺς λόχους ποιησαμένους τοσοῦτον χωρίον κατασχεῖν διαλείποντας τοῖς λόχοις ὅσον[5] ἔξω τοὺς ἐσχάτους λόχους γενέσθαι[5] τῶν πολεμίων κεράτων· καὶ οὕτως ἐσόμεθα τῆς τε τῶν πολεμίων φάλαγγος ἔξω οἱ ἔσχατοι λόχοι, καὶ ὀρθίους ἄγοντες οἱ κράτιστοι ἡμῶν πρῶτον προςίασιν, ᾗ τε ἂν εὔοδον ᾖ ταύτῃ ἕκαστος ἄξει ὁ λόχος. καὶ εἴς τε τὸ διαλεῖπον οὐ ῥᾴδιον ἔσται τοῖς πολεμίοις εἰςελθεῖν, ἔνθεν καὶ ἔνθεν λόχων ὄντων, διακόψαι τε οὐ ῥᾴδιον ἔσται λόχον ὄρθιον προσιόντα. ἐάν τέ τις πιέζηται τῶν λόχων, ὁ πλησίον βοηθήσει· ἤν τε εἷς πῃ δυνηθῇ τῶν λόχων, ὁ πλησίον βοηθήσει· ἤν τε εἷς πῃ δυνηθῇ τῶν λόχων ἐπὶ τὸ ἄκρον ἀναβῆναι, οὐδεὶς[6] μηκέτι μείνῃ[6] τῶν πολεμίων." ταῦτα ἔδοξε, καὶ ἐποίουν ὀρθίους τοὺς λόχους. Ξενοφῶν δὲ ἀπιὼν ἐπὶ τὸ εὐώνυμον ἀπὸ τοῦ δεξιοῦ ἔλεγε τοῖς στρατιώταις· "Ἄνδρες! οὗτοί εἰσιν οὓς ὁρᾶτε μόνοι ἔτι ἡμῖν ἐμποδὼν[7] τὸ[7] μὴ[7] ἤδη εἶναι[7] ἔνθα πάλαι ἐσπεύδομεν· τούτους, ἤν πως δυνώμεθα, καὶ ὠμοὺς δεῖ καταφαγεῖν."

2. Elucidate fully the construction of every word or phrase to which the numbers are attached.

III.—Retranslate what follows in Attic Prose, accentuating your text throughout :—

Alexandros, the son of Philippos and Olympias,—he who gave himself out as the son of Zeus,—having ended[1] his life in Babylon, lay dead, and, while his officers contended for the sovranty, remained without that sepulture in which—as our common nature requires us to inter[2] him who is no more—even the poorest share. Yes! even he was left without obsequies[3] for thirty days, until Aristandros the Telmessian, whether moved by a divine impulse[4] or influenced[5] by some other cause,[6] came among the Macedonians and announced to them that Alexandros was, both in life and in death, the most prosperous of all kings that had ever reigned, and that the Gods declared that the soil, which should first receive that body in which his spirit had abode, should enjoy all prosperity and be for ever exempt from devastation.[7] On hearing this they displayed emulous zeal,[8] each desiring to convey that freight[9] to his own realm, in order to retain it as a deposit[10] that should assure[11] him of a tranquil and stable reign.

[1]καταστρέφειν. [2]κατακρύπτειν. [3]ἀκηδής. [4]θεόληπτος. [5]κατέχεσθαι. [6]συντυχία. [7]ἀπόρθητος δι' αἰῶνος. [8]εἰςφέρεσθαι φιλονεικίαν. [9]ἀγώγιμον. [10]κειμήλιον. [11]ὅμηρος.

LATIN.—*Examiner, Rev. Dr. Reichel.*

A.—Translate the following extracts into English :—

1. Sed in omni oratione mementote eam me senectutem laudare quae fundamentis adolescentiae constituta sit. Ex quo efficitur id quod ego magno quondam

cum assensu omnium dixi, Miseram esse senectutem quae se oratione defenderet. Non cani, non rugæ repente auctoritatem arripere possunt: sed honeste acta superior aetas fructus capit auctoritatis extremos. Haec enim ipsa sunt honorabilia quae videntur levia atque communia, salutari, appeti, decedi, assurgi, deduci, reduci, consuli: quae et apud nos et in aliis civitatibus, ut quaeque optime morata, ita diligentissime observantur. Lysandrum Lacedaemonium, cujus modo mentionem feci, dicere aiunt solitum Lacedaemonem esse honestissimum domicilium senectutis: nusquam enim tantum tribuitur aetati, nusquam est senectus honoratior.—CICERO—DE SENECTUTE.

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2. Haec igitur lex in amicitia sanciatur ut neque rogemus res turpes nec faciamus rogati. Turpis enim excusatio est et minime accipienda, quum in caeteris peccatis, tum si quis contra rempublicam se amici causa fecisse fateatur. Etenim eo loco, Fanni et Scaevola, locati sumus, ut nos longe prospicere oporteat futuros casus reipublicae. Deflexit jam aliquantulum de spatio curriculoque consuetudo majorum. Ti Gracchus regnum occupare conatus est, vel regnavit is quidem paucos menses. Num quid simile populus Romanus audierat aut viderat? Hunc etiam post mortem secuti amici et propinqui quid in P. Scipione effecerint sine lacrimis non queo dicere. Nam Carbonem quoquo modo potuimus propter recentem poenam Ti. Gracchi sustinuimus. De C. autem Gracchi tribunatu quid exspectem non libet augurari. Serpit deinde res, quae proclivius ad perniciem quum semel coepit labitur. Videtis in tabella jam ante quanta facta sit labes, primo Gabinia lege, biennio autem post Cassia.—CICERO—DE AMICITIA.

3. Quinte, puta, aut Publi,—gaudent praenomine molles
Auriculae,—tibi me virtus tua fecit amicum;
Jus anceps novi, causas defendere possum:
Eripuit quivis oculos citius mihi, quam te
Contemptum cassa nuce pauperet: haec mea cura est,
Ne quid tu perdas, neu sis jocus. Ire domum atque
Pelliculam curare jube: fi cognitor ipse:
Persta atque obdura, seu rubra Canicula findet
Infantes statuas, seu pingui tentus omaso
Furius hibernas cana nive conspuet Alpes.
Nonne vides—aliquis cubito stantem prope tangens
Inquiet.—ut patiens, ut amicis aptus, ut acer;
Plures annabunt thunni et cetaria crescent.
Si cui praeterea validus male filius in re
Praeclara sublatus aletur, ne manifestum
Caelibis obsequium nudet te, leniter in spem
Adrepe officiosus, ut et scribare secundus
Heres et, si quis casus puerum egerit orco,
In vacuum venias: perraro haec alea fallit.

B.—α. State what you know about the persons mentioned in the second extract.

β. Give the provisions of the *leges* mentioned in it.

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1. Translate the following extract into English:—

Est autem maritimis urbibus quaedam corruptela ac demutatio morum: admiscentur enim novis sermonibus ac disciplinis, et importantur non merces solum adventiciae, sed etiam mores, ut nihil possit in patriis institutis manere integrum. Jam qui incolunt eas urbes, non haerent in suis sedibus, sed volucri semper spe et cogitatione rapiuntur a domo longius: atque etiam quum manent corpore, animo tamen excurrunt et vagantur. Nec vero ulla res magis labefectatam diu et Carthaginem et Corinthum pervertit aliquando, quam hic error ac dissipatio civium, quod mercandi cupiditate et navigandi et agrorum et armorum cultum reliquerant. Multa etiam ad luxuriam invitamenta perniciosa civitatibus suppeditantur mari, quae vel capiuntur vel importantur; atque habet etiam amoenitas ipsa vel sumptuosas vel desidiosas illecebras multas cupiditatum. Et quod de Corintho dixi, id haud scio an liceat de cuncta Graecia verissime dicere. —CICERO—DE REPUBLICA.

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Retranslate into Latin the following passage:—

When this reply was brought to Cæsar, he sent ambassadors again to him with the following message: Since after being treated by himself and the Roman people with so much kindness as to be called king and friend by the Senate in his (Cæsar's) consulship, he made this return to him and to the Roman people that, when invited to a colloquy he made difficulties about coming, and did not think proper to speak and take counsel concerning their common advantage, the demands which he made from him were the following: first, that he should not bring any further numbers of men over the Rhine into Gaul: next, that he should give back the hostages whom he had from the Haedui, and should allow the Sequani to give up to them those whom they had; and that he should not annoy the Haedui, nor make war against them and their allies.—Cæsar.

SECOND YEAR STUDENTS.

GREEK.—*Examiner, Professor MacDouall.*

I.—Translate perspicuously these lines from the XVth Book of the *Iliad*:—

Ὡς δ' ὅτε τις στατὸς[2] ἵππος, ἀκοστήσας[2] ἐπὶ φάτνῃ,[2]
δεσμὸν ἀποῤῥήξας θείῃ[1] πεδίοιο[3] κροαίνων,[1]
εἰωθὼς λούεσθαι ἐϋῤῥεῖος ποταμοῖο,[3]
κυδιόων,[1]—ὑψοῦ δὲ κάρη[1] ἔχει, ἀμφὶ δὲ χαῖται
ὤμοις ἀΐσσονται,—ὁ δ' ἀγλαΐηφι[1] πεποιθώς,[3]
ῥίμφα ἑ[3] γοῦνα[1] φέρει μετά ἤθεα καὶ νομὸν ἵππων,—
ὣς Ἕκτωρ λαιψηρὰ[1] πόδας καὶ γούνατ' ἐνώμα,[2]
ὀτρύνων ἱππῆας, ἐπεὶ θεοῦ ἔκλυεν αὐδήν.
οἱ δ' ὥστ' ἢ ἔλαφον κεραὸν[2] ἢ ἄγριον αἶγα
ἐσσεύοντο[3] κύνες τε καὶ ἀνέρες ἀγροιῶται,[2]—
τὸν μέν τ'[1] ἠλίβατος[2] πέτρη καὶ δάσκιος[2] ὕλη
εἰρύσατ',[1] οὐδ' ἄρα τέ[1] σφι[1] κιχήμεναι αἴσιμον ἦεν,
τῶν δέ θ'[1] ὑπὸ ἰαχῆς ἐφάνη λῖς[1] ἠϋγένειος[2]
εἰς ὁδόν, αἶψα δὲ πάντας ἀπέτραπε καὶ μεμαῶτας,[1]—
ὣς Δαναοὶ τείως μὲν ὁμιλαδὸν αἰὲν ἕποντο,
νύσσοντες ξίφεσίν τε καὶ ἔγχεσιν ἀμφιγύοισιν,[2]
αὐτάρ, ἐπεὶ ἴδον Ἕκτορ' ἐποιχόμενον στίχας ἀνδρῶν,
τάρβησαν,[1] πᾶσιν δὲ παραὶ ποσὶ κάππεσε[1] θυμός.

* * * * * * * *

Ἀργεῖοι δ' ὑπέμειναν ἀολλέες·[1] ὦρτο δ' ἀϋτὴ
ὀξεῖ' ἀμφοτέρωθεν· ἀπὸ νευρῆφι[1] δ' ὀϊστοὶ
θρῶσκον· πολλὰ δὲ δοῦρα θρασειάων ἀπὸ χειρῶν,
ἄλλα μὲν ἐν χροῒ[1] πήγνυντ' Ἀρηϊθόων[2] αἰζηῶν,[2]
πολλὰ δὲ καὶ μεσσηγύ,[2] λιλαιόμενα[2] χροὸς[3] ἆσαι,[1]
ἐν γαίῃ ἵσταντο, πάρος[3] χρόα καλὸν ἐπαυρεῖν.[3]
ὄφρα μὲν αἰγίδα χερσὶν ἔχ' ἀτρέμα[2] Φοῖβος Ἀπόλλων,
τόφρα μάλ' ἀμφοτέρων[3] βέλε' ἥπτετο, πῖπτε δὲ λαός·
αὐτὰρ, ἐπεὶ κατενῶπα[2] ἰδὼν Δαναῶν ταχυπώλων
σεῖσ', ἐπὶ δ' αὐτὸς ἄϋσε μάλα μέγα, τοῖσι δὲ[3] θυμὸν
ἐν στήθεσσιν ἔθελξε, λάθοντο δὲ θούριδος[2] ἀλκῆς.[3]
οἱ δ', ὥστ' ἠὲ βοῶν ἀγέλην ἢ πῶϋ μέγ' οἰῶν
θῆρε δύω κλονέωσι,[3] μελαίνης νυκτὸς ἀμολγῷ,[2]
ἐλθόντ' ἐξαπίνης,[2] σημάντορος οὐ παρεόντος,
ὣς ἐφοβηθεν[1] Ἀχαιοὶ ἀνάλκιδες· ἐν γὰρ Ἀπόλλων
ἧκε φόβον, Τρωσὶν δὲ καὶ Ἕκτορι κῦδος ὄπαζεν.

II.—1. Parse fully and accurately the words thus numbered, explaining their formation when at all unusual, and illustrating it by analogous instances, and giving also the Attic prose forms of such as are exclusively Homeric or poetic.

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2. Mention—and in some cases discuss—the probable derivation or composition of the words thus numbered, and for those which are not used in Attic prose substitute such as are.

3. Elucidate the construction of the words or phrases thus numbered.

4. Exemplify, from the lines given above, various characteristics of Homeric versification.

5. Criticise the structure of Homeric similes, especially that parenthetic extension by means of which their purely ornamental parts receive enlargement.

III.—Translate accurately the following extracts from the *Cyropaedeia* of XENOPHON:—

Ὁ δὲ Κῦρος ἔλεξε τοιάδε· "ἄνδρες φίλοι! ὁ μὲν ποταμὸς ἡμῖν[3] παρακεχώρηκε τῆς εἰς τὴν πόλιν ὁδοῦ·[3] ἡμεῖς δὲ θαῤῥοῦντες εἰσίωμεν δὴ μηδὲν φοβούμενοι εἴσω, ἐννοούμενοι ὅτι οὗτοι ἐφ' οὓς νῦν πορευσόμεθα ἐκεῖνοί εἰσιν οὓς ἡμεῖς καὶ συμμάχους πρὸς ἑαυτοῖς ἔχοντας καὶ ἐγρηγορότας[1] ἅπαντας καὶ νήφοντας καὶ ἐξωπλισμένους καὶ συντεταγμένους ἐνικῶμεν. νῦν δ' ἐπ' αὐτοὺς ἴμεν, ἐν[3] ᾧ πολλοὶ μὲν αὐτῶν καθεύδουσι πολλοὶ δὲ μεθύουσι[2] πάντες δ' ἀσύντακτοί εἰσιν· ὅταν δὲ καὶ αἴσθωνται[3] ἡμᾶς ἔνδον ὄντας,[3] πολὺ ἔτι μᾶλλον ἢ νῦν ἀχρεῖοι[2] ἔσονται ὑπὸ τοῦ ἐκπεπλῆχθαι.[1] εἰ δέ τις τοῦτο ἐννοεῖται, ὃ δὴ λέγεται φοβερὸν εἶναι τοῖς εἰς πόλιν εἰσιοῦσι, μὴ ἐπὶ τὰ τέγη[2] ἀναβάντες βάλλωσιν ἔνθεν καὶ ἔνθεν, τοῦτο[3] μάλιστα θαῤῥεῖτε· ἢν γὰρ ἀναβῶσί τινες ἐπὶ τὰς οἰκίας, ἔχομεν σύμμαχον θεὸν Ἥφαιστον· εὔφλεκτα[2] δὲ τὰ πρόθυρα αὐτῶν, φοίνικος[3] μὲν αἱ θύραι[3] πεποιημέναι, ἀσφάλτῳ[2] δὲ ὑπεκκαύματι[1] κεχρισμέναι·[1] ἡμεῖς δ' αὖ πολλὴν μὲν δᾷδα[2] ἔχομεν, ἣ ταχὺ πολὺ πῦρ τέξεται,[1] πολλὴν δὲ πίτταν καὶ στυπεῖον,[2] ἃ[3] ταχὺ παρακαλεῖ[3] πολλὴν φλόγα· ὥςτε ἀνάγκην εἶναι ἢ φεύγειν ταχὺ τοὺς[3] ἀπὸ[3] τῶν οἰκιῶν ἢ ταχὺ κατακεκαῦσθαι.[1] ἀλλ' ἄγετε[3] λαμβάνετε[3] τὰ ὅπλα· ἡγήσομαι δὲ ἐγὼ σὺν τοῖς θεοῖς. ὑμεῖς δ'," ἔφη, "ὦ Γαδάτα καὶ Γωβρύα! δείκνυτε τὰς ὁδούς· ἴστε[1] γάρ· ὅταν δὲ ἐντὸς γενώμεθα, τὴν ταχίστην ἄγετε ἐπὶ τὰ βασίλεια."[1]

. . . . ἐπεὶ δὲ ἡμέρα ἐγένετο καὶ ᾔσθοντο[1] οἱ τὰς ἄκρας ἔχοντες ἑαλωκυῖάν[1] τε τὴν πόλιν καὶ τὸν βασιλέα τεθνηκότα, παραδιδόασι καὶ τὰς ἄκρας. ὁ δὲ Κῦρος τὰς μὲν ἄκρας εὐθὺς παρελάμβανε καὶ φρουράρχους τε καὶ φρουροὺς εἰς ταύτας ἀνέπεμπε, τοὺς δὲ τεθνηκότας θάπτειν ἐφῆκε[1] τοῖς προσήκουσι· τοὺς δὲ κήρυκας κηρύττειν ἐκέλευσεν ἀποφέρειν πάντας τὰ ὅπλα Βαβυλωνίους· ὅπου δὲ ληφθήσοιτο[1 & 3] ὅπλα ἐν οἰκίᾳ, προηγόρευεν ὡς πάντες οἱ ἔνδον ἀποθανοῖντο.[1 & 3] οἱ μὲν δὴ ἀπέφερον, ὁ δὲ Κῦρος ταῦτα μὲν εἰς τὰς ἄκρας κατέθετο,[3] ὡς εἴη[3] ἕτοιμα εἴ τι[3] ποτε δέοι χρῆσθαι. ἐπεὶ δὲ ταῦτ' ἐπέπρακτο,[1] πρῶτον μὲν τοὺς μάγους καλέσας, ὡς δοριαλώτου[2] τῆς πόλεως οὔσης,[3] ἀκροθίνια[2] τοῖς θεοῖς καὶ τεμένη[2] ἐκέλευσεν ἐξελεῖν·[1] ἐκ τούτου δὲ καὶ οἰκίας διεδίδου[1] καὶ ἀρχεῖα[2] τούτοις οὕςπερ κοινῶνας[1] ἐνόμιζε τῶν καταπεπραγμένων· καὶ οὕτω διένειμεν[1] ὥςπερ ἐδέδοκτο[1] τὰ κράτιστα τοῖς ἀρίστοις. εἰ δέ τις οἴοιτο μεῖον[3] ἔχειν,[3] διδάσκειν προσιόντας ἐκέλευε. προεῖπε δὲ Βαβυλωνίοις μὲν τὴν γῆν ἐργάζεσθαι καὶ τοὺς δασμοὺς[2] ἀποφέρειν καὶ θεραπεύειν τούτους οἷς ἕκαστοι αὐτῶν ἐδόθησαν· Πέρσας δὲ τοὺς κοινωνοὺς[1] καὶ τῶν συμμάχων ὅσοι μένειν ᾑροῦντο παρ' αὐτῷ ὡς δεσπότας ὧν ἔλαβον προηγόρευε διαλέγεσθαι.

IV.—Parse fully and accurately the words thus numbered, illustrating their formation, when at all unusual, by analogous instances.

2. Derive or decompound the words thus numbered.

3. Elucidate the construction of the words or phrases thus numbered.

V.—Translate the following verse into Attic prose:

Education, properly so called, is designed for the cultivation of the intellect and the development of the reasoning faculties: special training is intended to adapt a man for some particular calling which is assigned to him as a member of the body politic. The clear-headed Greeks denied the name of "education" (παιδεία) to that which is learned, not for its own sake, but for the sake of some extrinsic gain or of doing some work, and they distinguished formally between those studies which they called "liberal" or "worthy of a freeman" and those

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which were merely "mechanical" and "professional." In the same way Cicero names education "humanity" (*humanitas*), because its object is to give a full development to those reasoning faculties which are the proper and distinctive attributes of man as such.

LATIN.—*Examiner, Rev. Dr. Reichel.*

Translate accurately, into idiomatic English, the following extracts:—

1. TERENCE—ADELPHI.

DE. Quid hoc malum infelicitatis? nequeo satis decernere:
Nisi me credo huic esse natum rei, ferendis miseriis.
Primus sentio mala nostra: primus rescisco omnia
Primus porro obnuntio: aegre solus, si quid fit, fero.
SY. Rideo hunc: primum ait se scire: is solus nescit omnia.
DE. Nunc redeo: si forte frater redieret viso. CT. Syre,
Obsecro, vide ne ille huc prorsus se irruat. SY. Etiam taces?
Ego cavebo. CT. Nunquam hercle hodie ego istuc committam tibi:
Nam me jam in cellam aliquam cum illa concludam: id tutissimum est.
SY. Age, tamen ego hunc amovebo. DE. Sed eccum sceleratum Syrum.
SY. Non hercle hic qui vult durare quisquam, si sic fit, potest.
Scire equidem volo, quot mibi sint domini: quae haec est miseria!
DE. Quid ille gannit? quid vult? quid ais, bone vir? est frater domi?
SY. Quid malum "bone vir" mihi narras? equidem perii. DE. Quid tibi est?
SY. Rogitas? Ctesippo me pugnis miserum et istam psaltriam
Usque occidit. DE. Hem, quid narras? SY. Em vide ut discidit labrum.
DE. Quamobrem? SY. Me impulsore hanc emptam esse ait. DE. Non tu eum rus hinc modo
Produxe aibas? SY. Factnm: verum venit post insaniens:
Nil pepercit. Non puduisse verberare hominem senem!
Quem ego modo puerum tantillum in manibus gestavi meis.
DE. Lando, Ctesippo: patrissas; abi, virum te judico.

2. PLAUTUS—TRINUMUS.

SU. Multa semul rogas: nescio quid expediam potissumum.
Si unum quidquid singillatim et placide percontabere,
Et meum nomen et mea facta et itinera ego faxo scias.
CH. Faciam ita nt vis: agedum, nomen primum memora tuum mihi.
SU. Magnnm facinus incipissis petere. CH. Quid ita? SU. Quia, pater,
Si ante lucem ire hercle occupias a meo primo nomine,
Concubium sit noctis prius quad ad postremum perveneris.
CH. Opus facto est viatico ad tuum nomen, ut praedicas.
SU. Est minuseulum alterum quasi vasculum vinarium.
CH. Qnid id est tibi nomen, adulescens? SU. Pax, id est nomen mihi:
Hoc cotidianum est. CH. Edepol nomen nugatorinm:
Quasi dicas, siquid crediderim tibi, pax periisse ilico.
Hie homo solide sucophanta est. quid ais tu, adulescens? SU. Quid est?
CH. Eloquere, isti tibi quid homines debent quos tu quaeritas?

3. CICERO—AD ATTICUM.

Nunc ita nos gerimus, ut in dies singulos et studia in nos hominum et opes nostrae augeantur. Rempublicam nullam ex parte attingimus: in causis atque in illa opera nostra forensi summa industria versamur. Quod egregie non modo iis qui utuntur opera, sed etiam in vulgus gratum esse sentimus. Domus celebratur: occurritur: renovatur memoria consulatus: studia significantur: in eam spem adducimur, ut nobis ea contentio, quae impendet, interdum no fugienda videator. Nunc mihi et consiliis opus est tuis et amore et fide. Quare advola. Expedita mihi erunt omnia, si te habebo. Multa per Varronem nostrum agi possunt, quae te urgente erunt ferniora: multa ab ipso Publio elici, multa cognosci, quae tibi occulta esse non poterunt: multa etiam—sed absurdum est singula explicare, cum ego requiram te ad omnia. Unum illud tibi persuadeas

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velim, omnia mihi fore explicata, si te videro: sed totum est in eo, si ante, quam ille ineat magistratum. Puto Pompeium Crasso urgente, si tu aderis, qui per *βοῶπιν* ex ipso intelligere possis, quae fide ab illis agatur, nos aut sine molestia, aut certe sine errore futuros.

4. VIRGIL—GEORGICS.

Atque equidem, extremo ni jam sub fine laborum
Vela traham, et terris festinem advertere proram,
Forsitan et, pinguis hortos quae cura colendi
Ornavit, canerem, biferique rosaria Paesti:
Quoque modo potis gauderent intuba rivis,
Et virides apio ripae, tortusque per herbam
Cresceret in ventrem cucumis: nec sera comantem
Narcissum, aut flexi tacuissem vimen acanthi,
Pallentisque hederas, et amantis litora myrtos.
Namque sub Oebaliae memini me turribus altis,
Qua niger humectat flaventia culta Galaesus,
Corycium vidisse senem, cui pauca relicti
Jugera ruris erant, nec fertilis illa juvencis,
Nec pecori opportuna seges, nec commoda Baccho.
Hic rarum tamen in dumis olus albaque circum
Lilia verbenasque premens vescumque papaver,
Regum aequabat opes animo, seraque revertens
Nocte domum dapibus mensas onerabat inemtis.
Primus vere rosam atque auctumno carpere poma,
Et, quum tristis hiems etiam num frigore saxa
Rumperet, et glacie cursus frenaret aquarum,
Ille comam mollis jam tondebat hyacinthi,
Aestatem increpitans seram Zephyrosque morantis.

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1. Translate into English the following extract:—

CICERO—PLANCO.

Nihil post hominum memoriam gloriosius, nihil gratius, ne tempore quidem ipso opportunius accidere vidi quam tuas, Plance, literas. Redditae sunt enim frequenti senatu Cornuto, quum is frigidas sane et inconstantes recitasset literas Lepidi. Sub eas statim recitatae sunt tuae, non sine magnis quidem clamoribus. Quum rebus enim ipsis essent et studiis beneficiisque in rempublicam gratissimae, tum erant gravissimis verbis et sententiis. Flagitare senatus institit Cornutum, ut referret statim de tuis literis. Ille se considerare velle. Quum ei magnum convicium fieret cuncto a Senatu, quinque tribuni plebi retulerunt. Servilius rogatus rem distulit; ego eam sententiam dixi, cui sunt assensi ad unum. Ea quae fuerit, ex senatus consulto cognosces. Tu, quanquam consilio non eges, vel abundas potius, tamen hoc animo esse debes, ut nihil huc rejicias, neve in rebus tam subitis tamque angustis a senatu consilium petendum putes. Ipse tibi sis senatus; quocumque te ratio reipublicae ducet, sequare. Cures, ut ante factum aliquod a te egregium audiamus, quam futurum putarimus. Illud tibi promitto, quidquid erit a te factum, id senatum non modo ut fideliter, sed etiam ut sapienter factum conprobaturum.

2. Translate the following into Latin prose:—

After the Second Punic War there were several Romans who wrote the history of their country in the Greek tongue, and among these we have to mention especially Q. Fabius Pictor, and L. Cincius Alimentus. Both were of noble families. Q. Fabius had been praetor. The object of his work was to counteract the contempt with which the Greeks regarded the Romans. He wrote the history of Rome from its beginning: whether he spoke of Æneas we cannot ascertain, but we have ample evidence of the manner in which he treated of the *primordia urbis*, of Romulus and Remus. Of the earlier times he gave only a brief outline, but as he advanced nearer to the age in which he lived, his account became more minute. We hear from Polybius that he showed great partiality to his countrymen, and endeavoured to justify them in everything; and when a man like Polybius prefers such a censure we may readily believe him.

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MODERN LANGUAGES.—*Examiner, Dr. Frings.*

Le 27 mars 1625, Charles I^{er} monta sur le trône, et aussitôt il convoqua un parlement. A peine la chambre des communes était assemblée, qu'un homme de bien, compté sous le dernier règne parmi les adversaires de la cour, Sir Benjamin Rudyard se leva et fit la motion qu'on ne négligeât rien désormais pour maintenir entre le roi et le peuple une parfaite harmonie: "Car, dit-il, nous pouvons tout espérer du prince qui nous gouverne le bonheur et les libertés de notre pays."

Toute l'Angleterre en effet se livrait à la joie et à l'espérance; et ce n'étaient pas seulement ces espérances vagues, ces joies tumultueuses qui éclatent au début d'un nouveau règne; celles-ci étaient sérieuses, générales, et semblaient bien fondées. Charles était un prince de mœurs graves et pures, d'une piété reconnue, appliqué, instruit, frugal, peu enclin à la prodigalité, réservé dans humeur, digne sans arrogance. Il maintenait dans sa maison la décence et la régle; tout en lui annonçait un caractère élevé, droit, ami de la justice; ses manières et son air imposaient aux courtisans, et plaisaient au peuple; ses vertus lui avaient valu l'estime des gens de bien. Lasse des mœurs ignobles, de la pédanterie bavarde et familière, de la politique inerte et pusillanime de Jacques I^{er}, l'Angleterre se promettait d'être heureuse et libre sous un roi qu'enfin elle pourrait respecter.—THIERS: *Récit de la Campagne d'Italie.*

Lorsque l'enfant parait, le cercle de famille
Applaudit à grands cris; son doux regard qui brille
Fait briller tous les yeux,
Et les plus tristes fronts, les plus souillés peut-être,
Se déridont sondain à voir l'enfant paraître
Innocent et joyeux.

Soit que juin ait verdi mon seuil, ou que novembre,
Fasse, autour d'un grand feu vacillant dans la chambre,
Les chaises se toucher,
Quand l'enfant vient, la joie arrive et nous éclaire!
On rit, on se récrie, on l'appelle, et sa mère
Tremble à le voir marcher.

Quelquefois nous parlons en remuant la flamme,
De patrie et de Dieu, des poëtes, de l'âme
Qui s'élève en priant;
L'enfant parait, adieu le ciel et la patrie
Et les poëtes saints! la grave causerie
S'arrête en souriant.

V. HUGO.

Translate into French, German, or Italian:—

There is nothing more memorable in history than the actions, fortunes, and character of William the Conqueror; whether we consider the grandeur of the plans he formed, the courage and wisdom with which they were executed, or the splendour of that success, which, adorning his youth, continued without the smallest reverse to support his age, even to the last moments of his life. He lived above seventy years, and reigned within ten years as long as he lived; sixty over his dukedom, above twenty over England; both of which he acquired or kept by his own magnanimity, with hardly any other title than he derived from his arms; so that he might be reputed, in all respects, as happy as the highest ambition, the most fully gratified, can make a man. The silent inward satisfactions of domestic happiness he neither had, nor sought. He had a body suited to the character of his mind, erect, firm, large, and active, whilst to be active was a praise; a countenance stern, and which became command.—BURKE.

1. When do *Je suis fâché*, *Je suis charmé*, and such like expressions, govern the infinitive mood with *de*, and when the subjunctive mood?
2. When is the French definite article made use of instead of the English possessive pronoun, and when not? Give examples of each case.

3. When are *he is*, *she is*, *they are*, &c., rendered by *c'est ce sont*, &c., and when by *il est*, *elle est*, *ils sont*, &c.?

4. State when *of whom* is expressed in French by *dont*, and when by *de qui*.

5. Decline the following relatives pronoun in the singular and plural: *qui*, *lequel*, *laquelle*.

6. Decline the interrogative pronoun *qui*.

7. State what participles past are never declined.

8. How do you translate the words *some* or *any* before a noun, and how do you render them when not followed by a noun? Give examples of each case.

9. When does the English accusative case change into the dative case in French? Give examples.

10. When are *nu*, *demi*, *feu* declined, and when not? Give examples of each case.

THIRD YEAR STUDENTS.

LATIN.—*Examiner, Rev. Dr. Reichel.*

Translate the following extracts:—

1. Ipse Vitellius a ponte Mulvio, insigni equo, paludatus accinctusque, senatum et populum ante se agens, quo minus ut captam urbem ingrederetur, amicorum consilio deterritus, sumpta praetexta et composito agmine incessit. Quatuor legionum aquilae per frontem, totidemque circa e legionibus aliis vexilla, mox duodecim alarum signa et post peditum ordines eques: dein quatuor et triginta cohortes, ut nomina gentium aut species armorum forent, discretae. Ante aquilam praefecti castrorum tribunique et primi centurionum, candida veste: caeteri juxta suam quisque centuriam, armis donisque fulgentes. Et militum phalerae torquesque splendebant. Decora facies, et non vitellio principe dignus exercitus. Sic Capitolium ingressus, atque ibi matrem complexus nomini Augustae honoravit.—TACITUS.

a. Who was the first woman honoured with the title of Augusta; and when did she receive it?

β. Name the different garbs worn by the Roman imperatores, and specify the occasions on which they were worn.

2. Vivite contenti casulis et collibus istis,
O pueri! Marsus dicebat et Hernicus olim
Vestinusque senex: panem quaeramus aratro
Qui satis est mensis: laudant hoc numina ruris
Quorum ope et auxilio gratae post munus aristae
Contingunt homini veteris fastidia quercus.
Nil vetitum fecisse volet, quem non pudet alto
Per glaciem perone tegi, qui summovet euros
Pellibus inversis: peregrina ignotaque nobis
Ad scelus atque nefas, quaecumque est purpura ducit.
Haec illi veteres praecepta minoribus: at nunc
Post finem auctumni media de nocte supinum
Clamosus juvenem pater excitat: accipe ceras,
Scribe, puer, vigila, causas age, perlege rubras
Majorum leges aut vitem posce libello.
Sed caput intactum buxo naresque pilosas
Annotet et grandes miretur Laelius alas.
Dirue Maurorum attegias, castella Brigantum,
Ut locupletem aquilam tibi sexagesimus annus
Adferat; aut longos castrorum ferro labores
Si piget et trepidum solvunt tibi cornua ventrem
Cum lituis audita, pares quod vendere possis
Pluris dimidio, nec te fastidia mercis
Ullius subeant ablegandae Tiberim ultra,
Neu credas ponendum aliquid discriminis inter
Unguenta et corium. Lucri bonus est odor ex re

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Qualibet. Illa tuo sententia semper in ore
Versetur dis atque ipso Jove digna poeta,
Unde habeas quaerit nemo sed oportet habere.
Hoc monstrant vetulae pueris repentibus assae,
Hoc discunt omnes ante alpha et beta puellae.

JUVENAL.

α. Where did the *Brigantes* live?

β. What post is meant by *locuples aquila?*

γ. What was the term of military service among the Romans?

δ. In the latter part of this extract there is an allusion to a dictum of one of the emperors who flourished during Juvenal's life.

3. CA. Nimis miser sum: nummum nusquam reperire argentis queo:
Ita miser et amore pereo et inopia argentaria.
BA. Emito *die caeca* hercle olivum, id vendito *oculata die:*
Jam hercle vel ducentae possunt fieri praesentes minae.
CA. Perii: *annorum lex me perdit quina vicenaria:*
Metuunt credere omnes. BA. Eademst mihi lex: metuo credere
PS. Credere autem? eho, an poenitit te quanto hic fuerit usui?
BA. Non est usu quisquam amator nisi qui perpetuat data:
Aut det usque aut quando nil sit semul amare desinat.
CA. Nilne te miseret? BA. Inanis cedis: *dicta non sonant.*
Atque ego te vivum salvumque vellem. PS. Eho an jam mortuust?
BA. Utut est, mihi quidem profecto cum istis dictis mortuust.
Ilico vixit amator, ubi lenoni supplicat.
Semper tu ad me cum argentata accedito querimonia:
Nam istuc quod nunc lamentare, non esse argentum tibi,
Aput novercam querere. PS. Eho, an tu usquam hujus nupsisti patri?
BA. Di meliora faxint. PS. Fac hoc quod te rogamus, Ballio,
Mea fide, si isti formidas credere. Ego in hoc triduo
Aut terri aut mari alicunde aliqua evolvam id argentum tibi.
BA. Tibi ego credam? PS. Cur non? BA. Quia pol qua opera credam tibi,
Una opera adligem canem fugitivam agninis lactibus.

PLAUTUS.

α. Explain the phrases marked in italics in the above extract.

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1. Translate the following extract into English:—

Deinceps igitur omnibus magistratibus auspicia et judicia dantur: judicia, ut esset populi potestas, ad quam provocaretur: auspicia, ut multos inutiles comitiatus probabiles impedirent morae: saepe enim populi impetum injustum auspiciis Dii immortales represserunt. Ex his autem qui magistratum ceperunt quod Senatus efficitur, populare sane neminem in summum locum nisi per populum venire, sublata cooptatione censoria. Sed praesto est hujus vitii temperatio, quod Senatus lege nostra confirmatur auctoritos. Sequitur enim, *ejus decreta rata sunto*. Nam ita se res habet, ut, si senatus dominus sit publici consilii, quoque si creverit, defendant omnes: et si ordines reliqui, principis ordinis consilio rempublicam gubernari velint, possit, ex temperatione juris, quum potestas in populo, auctoritas in Senatu sit, teneri ille moderatus et concors civitatis status, praesertim si proximae legi parebitur. Nam proximum est; *Is ordo vitio careto, caeteris specimen esto.*—CICENO—DE LEGIBUS

2. Translate the following extract into Latin Prose:—

The King of Spain died this morning. I feel very sincerely sorry on this occasion. He possessed many excellent qualities: in the course of daily conversations with him, during eight months, I never remember to have heard him use an improper or harsh expression: and even yesterday he went through his last scenes with the same guarded tranquillity and complacency. He had a

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private conversation with his four children: he took occasion to say something kind to some of his servants: he made some alterations in his will respecting the orphan child of his late son: and then he whispered to his old servant, to whom he had just left a legacy of £2,000, that earthly affairs were over, and that he would see nobody further except religious persons, such as his confessor and the nuncio. The confessor happened to ask him if he died in full forgiveness of all his enemies: he said his best answer to that was, that he could not recollect he had any enemies.—LORD AUCKLAND.

MODERN LANGUAGES.—*Examiner, Dr. Frings.*

Aprés le rare bonheur de trouver une compagne qui nous soit bien assortie, l'état le moins malheureux de la vie est sans doute de vivre seul. Tout homme qui a eu beaucoup à se plaindre des hommes, cherche la solitude. Il est même très-remarquable que tous les peuples malheureux par leurs opinions, leurs mœurs ou leurs gouvernemens, ont produit des classes nombreuses de citoyens entièrement dévoués à la solitude et au célibat: tels ont été les Egyptiens dans leur décadence, les Grecs du Bas-Empire; et tels sont de nos jours les Indiens, les Chinois, les Grecs modernes, les Italiens, et la plupart des peuples orientaux et méridionaux de l'Europe. La solitude ramène en partie l'homme au bonheur naturel, en éloignant de lui le malheur social. Au milieu de nos sociétés devisées par tant de préjugés, l'âme est dans une agitation continuelle: elle roule sans cesse en elle-même mille opinions turbulentes et contradictoires, dont les membres d'une société ambitieuse et misérable cherchent à se subjuguer les uns les autres. Mais dans la solitude, elle dépose ses illusions étrangères qui la troublent; elle reprend le sentiment simple d'elle-même, de la nature et de son auteur. Ainsi, l'eau bourbeuse d'un torrent qui ravage les campagnes, venant à se répandre dans quelque petit bassin éloigné de son cours, dépose ses vases au fond de son lit, reprend sa première limpidité, et, redevenue transparente, réfléchit avec ses propres rivages la verdure de la terre et la lumière des cieux.—BERNARDIN DE SAINT-PIERRE.

Napoléon veillait, seul et silencieux:
La fatigue inclinait cette tête puissante
Sur la carte immobile où s'attachaient ses yeux;
Trois guerrières, trois sœurs parurent sous sa tente.

Pauvre et sans ornements, belle de ses hauts faits,
La première semblait une vierge romaine
Dont le ciel a bruni les traits.
Le front ceint d'un rameau de chêne,
Elle appuyait son bras sur un drapeau français.
Il rappelait un jour d'éternelle mémoire;
Trois couleurs rayonnaient sur ses lambeaux sacrés,
Par la foudre noircis, poudreux et déchirés.
Mais déchirés par la victoire.

Je t'ai connu soldat; salut: te voilà roi.
De Marengo la terrible journée
Dans tes fastes, dit-elle, a pris place après moi;
Salut; je suis sa sœur ainée.

Je te guidais au premier rang;
Je protégeai ta course et dictai la parole
Qui ranima des tiens le courage expirant,
Lorsque la mort te vit si grand.
Qu'elle te respecta sous les foudres d'Arcole.
Tu changeas mon drapeau contre un sceptre d'airain;
Tremble; je vois pâlir ton étoile éclipsée.
La force est sans appui du jour qu'elle est sans frein.
Adieu! ton règne expire et ta gloire est passée.

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La seconde unissait aux palmes des déserts
Les dépouilles d'Alexandrie.
Les feux dont le soleil inonde sa patrie
De ses brûlants regards allumaient les éclairs.
Sa main par la conquête armée,
Dégouttante du sang des descendants d'Omar,
Tenait le glaive de César
Et le compas de Ptolémée.

La dernière—ô pitié! des fers chargeaient ses bras!
L'œil baissé sur la terre où chacun de ses pas
Laissait une empreinte sanglante,
Elle s'avançait chancelante
En murmurant ces mots: "Meurt et ne se rend pas."
Loin d'elle les trésors qui parent la conquête,
Et l'appareil des drapeaux prisonniers,
Mais des cyprès beaux comme des lauriers
De leur sombre couronne environnaient sa tête.

Casimir Delavigne.

A short excursion which I have made to this place during the summer months, has occasioned some delay in my receiving your letter, and will prevent me from possessing, till my return, the copy of your history, which you so politely desired Mr. Strahan to send me. But I have already gratified the eagerness of my curiosity and impatience; and though I was obliged to return the book much sooner than I could have wished, I have seen enough to convince me that the present publication will support, and, if possible, extend the fame of the author; that the materials are collected with care, and arranged with skill; that the progress of discovery is displayed with learning and perspicuity; that the dangers, the achievements, and the views of the Spanish adventurers, are related with a temperate spirit; and that the most original, perhaps the most curious portion of human manners, is at length rescued from the hands of sophists and declaimers. Lord Stormont, and the few in this capital who have had an opportunity of perusing the History of America, unanimously concur in the same sentiments: your work is already become a favourite subject of conversation, and Mr. Suard is repeatedly pressed, in my hearing, to fix the time when his translation will appear.—Gibbon.

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1. De quelle langue vient le français?
2. Quelles sont les irrégularités des verbes *faire* et *mourir?*
3. Quand le participe passé précédé du verbe *être* est il invariable?
4. Quelle différence y a-t-il entre:

> "*La femme que j'ai* ENTENDU *louer*"—et
> "*La femme que j'ai* ENTENDUE *louer?*"

5. Que doit-on dire: *C'est en été que les eaux sont* LE *plus basses* ou LES *plus basses?* Expliquer.
6. Quand le *comparatif* est il suivi de l'adverbe négatif *ne?* Expliquer.
7. Comment se forme le féminin dans les adjectifs?
8. Quelle différence entre *deuxième* et *second?*
9. Donnez le present complet de l'indicatif des verbes *ranger*, *absoudre*, et *appeler*.
10. Traduisez: "I have more books than I want. Repeat as many of the words as you do remember."

SCIENCE SCHOLARSHIPS—FIRST YEAR STUDENTS.

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MATHEMATICS—*Examiner*, *Professor Slesser.*

ALGEBRA.

1. A person, after paying an income tax of 9*d.* in the pound, has left £898 6*s.* 8*d.* How much did his income amount to?

2. State and prove the rule for finding the greatest common measure of two integers.

Find the highest common factor of $32x^3+4xy(1+2x)+y^2$ and $16x^4-x^2y^2+2x^2y-\frac{y^3}{8}$; also of $(x-a)(x-b)-(y-a)(y-b)$ and $(x-c)(x-d)-(y-c)(y-d)$.

3. Reduce to their simplest forms the expressions:

$(a+b)^2(c+d)^2+(a-b)^2(c-d)^2-(a-b)^2(c^2+d^2)-(c-d)^2(a^2+b^2)$, and

$$\frac{1}{x+1}+\frac{2x}{x^2+1}+\frac{4x^3}{x^4+1}+\frac{8x^7}{x^8+1}+\frac{1}{x-1}.$$

4. Prove the rule for the position of the decimal point in the product of two numbers containing decimals. If one of the factors contains a non-terminating decimal of which the repeated part consists of only one figure, show that the product, if a repeating decimal, will have only one figure in the repeated part.

5. Find the square roots of the following expressions:

$$\left(\frac{x}{y}+\frac{y}{x}\right)^2-\left(\frac{x}{y}-\frac{y}{x}\right)^2;$$

$$x^2+4y^2+9-4xy+6x-12y;$$

$$4x^2+\frac{1}{x^2}+12x-\frac{6}{x}+5.$$

6. Solve the following equations:

$$(\alpha)\ \frac{x-1}{x+1}+\frac{x+2}{x-2}+\frac{x-3}{x+4}=3.$$

$$(\beta)\ \frac{1}{x+1}+\frac{2}{y}=4 \text{ and } \frac{3}{x+1}+\frac{5}{y}=1.$$

$$(\gamma)\ x^3-8=14(x-2)^2.$$

$$(\delta)\ \frac{16}{x^2-3x}=4+x-\frac{x^2}{3}.$$

7. Extract the square root of $33+12\sqrt{6}$.

8. If $\frac{a}{b}=\frac{c}{d}=\frac{e}{f}$ show that each of these fractions is equal to $\sqrt{\frac{a^2+c^2+e^2}{b^2+d^2+f^2}}$, and that $\frac{xac^2+yace+ze^2}{xbd^2+ybdf+zf^2}=\frac{ace+a^3}{bdf+b^3}$.

Given $\frac{x}{a}=\frac{y}{b}=\frac{z}{c}$, and $ax^3+3bxyz+5cz^3=a^4+3ab^2c+5c^4$, find the values of x, y, z.

9. Investigate the formula for the sum of n terms of an arithmetical progression. If the last term be 5 times the first, the sum is equal to three times the number of terms, multiplied by the first term.

10. There are two vessels, *A* and *B*, containing equal quantities of wine and water respectively. Half the contents of *A* are poured into *B*, and after mixture has taken place, an equal quantity is poured back from *B* to *A*, and the same process is again performed with the contents of the vessels. Find the ratio of wine to water in the mixture which *A* finally contains.

11. Explain what is meant by the logarithm of a number to a given base.

If $\log_a n$ designate the log. of n to the base a, show that $\log_a n=\frac{\log_{10} n}{\log_{10} a}$.

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Given $\log_{10}8 = \cdot 90309$, $\log_{10}7 = \cdot 84509$, find the values of $\log_{10}35$, $\log_{10}\frac{28}{25}$ $\log_{10}\frac{16}{49}$, and $\log_{7}10$.

Geometry and Trigonometry.

1. Describe a circle which shall touch two sides of a square and pass through the angle opposite that in which the two sides intersect.

2. Two chords in a circle $A\,B$, $C\,D$, intersect in the point E, show that the angle between $B\,A$ and $D\,C$ is half the sum or difference of the angles subtended at the centre by the arcs $A\,C$, $B\,D$.

3. Two circles intersect in the line $D\,E$, in such a way that radii drawn in the two circles to a point of intersection are at right angles to each other, $H\,E\,G$ is any line through E intersecting the circles in H G. Show that the lines $D\,G$, $D\,H$, are at right angles.

4. Explain fully the two methods of measuring angles generally adopted.

If the circular measures of three angles are $\frac{3}{4}$ ·025 and $\frac{\pi}{16}$ express the same angles in degrees, minutes, and seconds.

5. Define the sine, cosine, and tangent of an angle, and trace the changes in sign and magnitude of the tangent as the angle varies from 45° to 315°.

6. Given $\sin\theta + \cos\theta = \frac{1}{2}$, find the values of $\sin\theta$, $\cos\theta$, $\tan\theta$. Find the greatest and the least values which $\sin\theta + \cos\theta$ can have for any possible value of θ.

7. Show that $\cos(A-B) = \cos A\cos B + \sin A \sin B$.

   (1.) When $A > B$, and A and B each less than a right angle.

   (2.) When $A > B$ and $A > 180^\circ$, but $A - B \angle 180^\circ$.

8. Given the tangent of $8^\circ = t$, find the values of tan 98°, tan 106°, and tan 86°.

9. Show that in any plane triangle $A\,B\,C$ the area $= \sqrt{s(s-a)(s-b)(s-c)}$ where $s = \frac{1}{2}(a+b+c)$. What is assumed as the unit of area in proving the above formula?

If $c^2 = a^2 + b^2$, show that the above expression reduces to $\frac{1}{2}\,ab$.

10. In any plane triangle $A\,B\,C$ prove the formula $\cos A = \frac{b^2+c^2-a^2}{2bc}$.

Show that $a\cos\overline{B-C} + b\cos\overline{C-A} + c\cos\overline{A-B} = \frac{16(\text{area})^2}{abc}$.

11. The sides of a triangle are a, b, c, find the lengths of the lines drawn bisecting the angles, and terminated by the opposite sides.

Second Year Students.

Mathematics.—*Examiner, Professor Slesser.*

Algebra and Trigonometry.

1. Prove the rule for finding the highest common factor of two given algebraical expressions.

Show how to find the highest common factor of $\frac{1}{a}$ and $\frac{c}{d}$, where a, c, d, are known integral algebraical expressions.

2. Show that in extracting the square root of a number when three figures have been found, the next two may be found by dividing by the trial divisor, and in the next step four can be found at once, in the next step eight, and so on.

Extract the square root of 14692378277318641.

3. Find the sums of the following series:

$$1 + \frac{1}{2} + \frac{3}{4} + \frac{5}{8} + \frac{7}{16} + \ldots\ldots\ldots\ldots \text{in infinity.}$$

$$\frac{1}{2}+\frac{4}{4}+\frac{9}{8}+\frac{16}{16}+\frac{25}{32}+\text{............in infinity.}$$

$$1\cdot 2+2\cdot 3x+3\cdot 4x^2+4\cdot 5x^3+\text{.........to } n \text{ terms.}$$

4. If there are n things which are all different except p which are of one kind, q of another kind, and r of a third, show that the number of permutations which can be made with these n things taken all together is $\dfrac{\underline{|n}}{\underline{|p}\;\underline{|q}\;\underline{|r}}$.

Show that the number of permutations of the same things taken two together is $(n-p-q-r+3)\,(n-p-q-r+2)+3$.

5. Assuming the binomial theorem when the index is positive, thence prove its truth when the index is negative.

Find the coefficient of x^n in the expansion of $\sqrt{\dfrac{1-x}{1+x+x^2}}$.

6. It is required to purchase by 10 annual payments an estate worth £p per annum which is to come into possession at the end of 20 years. What must each annual payment be, the amount of £1 for a year being £R, and the first of the payments to be made immediately.

7. Given $\sin 3\,\theta + \cos 5\,\theta = 0$, find all the values of θ. How many values can $\tan\theta$ have when θ is derived from the above equation?

8. Show that when an angle is small it cannot be accurately determined from its Log. sine, by means of the method of proportional parts.

Investigate some one method by which this difficulty is obviated.

9. Apply De Moivre's theorem to find all the values of the expression $(\sqrt{3}+\sqrt{-1})^{\frac{1}{3}} + (\sqrt{3}-\sqrt{-1})^{\frac{1}{3}}$.

10. Sum the series $1+p\cos\theta + p^2\cos 2\theta+p^3\cos 3\theta + \ldots\ \infty$ and $1-\dfrac{p\cos\theta}{1}+\dfrac{p^2\cos 2\theta}{1.2}-\dfrac{p\cos 3\theta}{1.2.3}+\ldots\ldots$

11. The sides of a triangle $A\ B\ C$ are a, b, c; a_1, b_1, c_1, are the lengths of the lines drawn from the angles to the middle points of the opposite sides. A second triangle, $A_1\ B_1\ C_1$ is formed, the length of whose sides are a_1, b_1, c_1: show that the lengths of the bisectors of the sides of $A_1\ B_1\ C_1$ are equal to $\frac{3}{4}a, \frac{3}{4}b, \frac{3}{4}c$.

CONIC SECTIONS.

N.B.—The propositions to be proved Geometrically.

1. In a parabola, tangents at the extremities of a focal chord intersect in the directrix and are at right angles.

2. The line passing through a point of an ellipse and equally inclined to the lines drawn from that point to the foci, is a tangent to the ellipse.

3. If a right cone be cut by a plane, state the conditions with regard to the position of the cutting plane, in order that the section may be an ellipse, parabola, or hyperbola.

Prove the proposition in the case of the parabola.

4. Show that if, in an ellipse, one diameter bisects all chords parallel to another; then will that other bisect all chords parallel to the first.

5. If, in an ellipse, the normal at P, be produced to meet the diameter conjugate to $C\,P$, in E, and the major axis in G, show that the rectangle $P\,G$, $P\,E$, is equal to the square on half the minor axis.

ANALYTICAL GEOMETRY AND DIFFERENTIAL CALCULUS.

1. What is meant by the equation of a curve?

Find the loci of which the following are the equations:

$$x=0;\ x-y=0;\ x^2-a^2=0;\ (x-a)\,(y-b)=0;\ x+3y=9.$$

2. Prove that if the co-ordinates of any three points, P_1, P_2, P_2, satisfy the equation $x+3y=9$, then the lines P_1, P_2, and P_1, P_3, coincide.

Appendix No. 8.

Scholarship Examinations.

3. Show how to determine the points of intersection of two loci whose equations are given.

If $x\cos a+y\sin a-p=0$ be the equation of a straight line, find the equation of the $\perp^r$ from the point (a, o) on it, and the co-ordinates of the point where that $\perp^r$ intersects it.

4. Find the equation of a circle of given centre and radius. Find the equation of the circle which cuts off intercepts 3, 12 on one axis, and touches the other. Find also the co-ordinates of its centre and its radius.

5. Show that the equation $x^2+y^2=a\ (x+y)$ expresses this property of its locus. The square of the distance of any point from the origin is equal to the rectangle contained between a line $= a\sqrt{2}$, and the $\perp^r$ from the point on the line bisecting the exterior angle between the axes.

6. Define the differential coefficient of a function of a variable, and deduce from your definition the differential coefficients of x^3, $\frac{1}{\sqrt{a+x}}$, $\tan mx$, $\sin^{-1}x$.

7. Differentiate the expressions $(a^2+x^2)^{\frac{2}{3}}$, $\frac{(a+x)^m}{(b+x)^n}$, $\sqrt{\frac{x^2+1}{x^2-1}}$; $\log\left(\sin x\sqrt{\frac{1-\cos x}{1+\cos x}}\right)$; $\sec^{-1}mx$, $(x^2+1)^x$.

THIRD YEAR STUDENTS.

MATHEMATICS.—*Examiner, Professor Slesser.*

THEORY OF EQUATIONS, SPHERICAL TRIGONOMETRY, &c.

1. The sides of a triangle are the roots of the equation $x^3-px^2+qx-r=0$. Show that the radius of the circle inscribed in the triangle is $=\sqrt{\frac{4pq-8r-p^3}{4p}}$.

Write down the condition that one root may be equal to the sum of the other two.

2. If an equation with real coefficients have one root equal to $a+b\sqrt{-1}$, it has another equal to $a-b\sqrt{-1}$. Also if an equation has rational coefficients and $a+\sqrt{b}$ is a root, then is $a-\sqrt{b}$ another root.

3. Prove Descartes' Rule of Signs, and show from it that the equation $x^5-5x+6=0$ has at least two impossible roots.

4. Show that between every pair of roots of the equation $f(x)=0$, there lies a root of the equation $f'(x)=0$.

When there are a pair of equal roots of $f(x)=0$, how does the above statement become modified.

5. The equation $x^3-120x^2-360x-1107=0$ has one root lying between 100 and 200; find its value by Horner's method.

6. If $l\alpha^2+m\beta^2+n\gamma^2=0$, and $l'\alpha^2+m'\beta^2+n'\gamma^2=0$ be the equations of two conics, show that their chords of intersection meet two and two in the angles of the triangle of reference.

7. In any spherical triangle ABC, prove the formula $\cos A=\frac{\cos a-\cos b\cos c}{\sin b\sin c}$.

Investigate what this formula becomes, when in the limit the triangle becomes a plane one.

8. Show how to determine the radius of the small circle circumscribing a given spherical triangle. The three edges of a tetrahedron meeting at the vertex, make with each other angles of 60°. A line is drawn through the vertex equally inclined to the three edges, find its inclination to each of them.

9. Show that the area of a spherical triangle varies as the excess of the sum of its angles above two right angles. A quadrilateral traced on the surface of the sphere has each of its sides equal to a, and all its angles equal, show how to determine its angles and area.

10. The edges OA, OB, OC, of a tetrahedron are inclined at angles BOC, COA, AOB, equal to α, β, γ, respectively. The tetrahedron is made to rotate about OA held fixed, through an angle ω, find the inclinations of the edges to their former positions.

DIFFERENTIAL CALCULUS, &c.

Appendix No. 8.

Scholarship Examinations.

1. Explain what is meant by the "limiting value" of an expression.

Find the values of $\text{lt}_{\theta=0}\,(\sin\theta)^{\theta}$ and $\text{lt}_{\theta=0}(\cos\theta)^{\frac{a}{\theta}}$.

2. Show that if $u=f(x, z)$, where z is a given function of x, then $\frac{du}{dx}=\frac{df}{dx}+\frac{df}{dz}\frac{dz}{dx}$.

Given $\phi\ (x, y)=0$, find the value of $\frac{d^2y}{dx^2}$ in terms of the partial differential coefficients of $\phi\ (x, y)$.

3. If $u=f(x, y)$ where x and y are independent, and if $x'\ y'$ he two new variables, such that $x'=lx-my$ and $y'=mx+ly$: find the values of $\frac{du}{dx'}, \frac{d^2u}{dx^2}, \frac{d^2u}{dxdy}$ ....in terms of differential coefficients in which

(1.) $x'\ y'$ shall he independent variables.
(2.) $x\ y'$ shall be independent variables.

4. A wine merchant finds that the price of wine increases hy a quantity proportional to the number of years he has kept it, and so as to he doubled in 8 years. The quantity of wine lost also varies as the numher of years it has heen kept, and so as to be entirely lost in 30 years. If the interest of money he such, that £1 will, in 20 years, amount to £(ϵ=2·71828...), at what age ought he to sell his wine so as to obtain the greatest profit?

5. Find the magnitude and position of the circle which has the closest possihle contact with a curve at a proposed point. In the curve $y=a \log \sin x$, find the value of ρ and the relation between ρ and the length of the arc.

6. Prove that $\int_a^b \phi(z) f'(z)\, dz = \int_{f(a)}^{fb} \phi(z)\, dz$ where $x=f(z)$ and find the values of $\int x(a+bx^2)^{\frac{n}{2}}dx, \int\frac{xdx}{a^4+x^4}, \int\frac{dx}{x\sqrt{a^n+x^n}}$.

7. Find also the values of the following integrals:

$$\int_0^{\infty} \epsilon^{-ax} \cos mx\, dz,\ \int_{-a}^{a} x^2(a^2-x^2)^{\frac{1}{2}}\, dx,\ \int_0^{\frac{\pi}{2}} \sin^4\theta \cos^6\theta\, d\theta.$$

8. Find the value of a semicircular field, of such a kind, that the value of the land at any point varies as its distance from one extremity of the diameter, and so that the value of a unit of area at the other extremity of the diameter would be v.

9. If the population of a country be now P_0, and the rate of increase at any instant be proportional to the whole population at that instant, also if P_1 he the population at the end of t_1 years, then the population at the end of t years will be $P_0\left(\frac{P_1}{P_0}\right)^{\frac{t}{t_1}}$.

10. Solve the following differential equations:

$$\frac{dy}{dx}+y\cot x=x^2\,y^2:$$

$$\frac{d^4y}{dx^4}+(m^2-n^2)\frac{d^2y}{dx^2}-m^2n^2y=A\sin nx+B\epsilon^{mx}+C\epsilon^{nx}\cos mx:$$

$$(1+x)^2\frac{d^2u}{dx^2}+3(1+x)\frac{du}{dx}-8u=A\log(1+x).$$

11. If the positions of points in space he referred to three rectangular axes, show that the equation of a plane may he put in the form $x\cos\alpha+y\cos\beta+z\cos\gamma=p$ where $p=\perp^r$ on plane from origin: and α, β, γ, the angles that $\perp^r$ make with the axes.

Appendix No. 8.

Scholarship Examinations.

If ⊥" be drawn from the origin on the three lines in which the plane intersects the co-ordinate planes, and $p_1\ p_2\ p_3$ be these perpendiculars, show that

$$\frac{1}{p_1^2}+\frac{1}{p_2^2}+\frac{1}{p_3^2}=\frac{2}{p^2}.$$

NATURAL PHILOSOPHY.—*Examiner, Dr. Stevelly.*

1. Two perfectly elastic spheres meet, moving in opposite directions with equal velocities: find the relation of their masses in order that one of them may remain at rest after the collision; also find the velocity and direction in which the other then moves: and state which mass moves and which is at rest after the collision.

2. Explain what is meant by a couple, and how one couple is distinguished from any other; and show that the same couple will act with the same efficacy, in any position, in the same or any other parallel plane whose parts are rigidly united.

3. A sphere, whose weight is W, rests on two smooth planes, inclined respectively at the angles α_1 and α_2 to the horizon; find the pressure sustained by each plane.

4. Investigate the relation between the power and the resistance on a single movable pulley, one end of the rope which reeves it being fixed, and the two portions of the rope inclined to each other at the angle α.

5. In the funicular polygon the force P acts at one of its angles, and its direction makes the angle α_1, with the element of the rope on one side of its point of application and the angle α_2 on the other; find the tensions t_1 and t_2 to which these elements are respectively subjected.

6. A body moving with a velocity of 36·05 feet per second, is found to have a velocity of 21·63 feet per second, when estimated in a certain direction oblique to its actual direction; find its velocity estimated in a direction perpendicular to this latter direction; and show how the angles which these two oblique directions make with its actual direction may be determined.

7. On what supposition is the equation $S=\frac{1}{2}gt^2$ true for the motion of a body falling freely under the influence of gravity? Explain also how, by the aid of this equation, the force of gravity at a given place is determined by experiment.

8. Write down the equation which is found to connect the length of the seconds pendulum with the latitude of the place at which it oscillates. Explain its terms, and state how its constants have been obtained.

9. Show that if any surface be so placed as to sustain the pressure of a uniform heavy fluid, the total pressure perpendicular to that surface at each point is equal to the weight of a column of the fluid whose volume is the area pressed multiplied by the depth of its centre of gravity beneath the free surface of the fluid. Explain how that weight is calculated.

10. Calculate the total gross pressure which a man of twelve stones weight can produce by the aid of a Bramah's Press, the diameter of whose ram is nine inches, of its pump-plunger half-an-inch, and the handle of which is such that he can lay on his entire weight at five feet from its pin or fulcrum, which is three inches from the centre of the pump-rod when the stroke is completed.

11. State the force by which a body totally or partially immersed in a heavy fluid is pressed upwards by it; and give the proof of what you state.

12. From a mean of the most reliable determinations it is found that 100 cubic inches of atmospheric air weigh 30·776 grains; the specific gravity of hydrogen gas is 0·069, that of common air being 1. Explain how, from these data, you would calculate the ascending power of one cubic fathom of hydrogen gas when surrounded by such atmospheric air.

13. Explain what is meant by the dispersion of light by a prism; how light is analysed by the prism; and by what means dispersion may be corrected, while yet the light may suffer refraction through two or more prisms: state also the leading facts revealed by the prism, as to chemical rays and heating rays.

14. Give a general explanation of the manner in which astronomers have shown that each of the planets moves round the sun nearly in an elliptic orbit; the sun occupying one of the foci of that ellipse.

LOGIC.—*Examiner, Rev. Dr. M'Cosh.*

Appendix No. 8.

Scholarship Examinations.

1. Explain the phrases "absolute," "relative," "positive," "privative," "negative," "connotative," "contrary," "contradictory," as applied to logical terms.

2. What are the essential steps in generalization? Show how there are in nature aids and guides in generalization.

3. To what do the general terms of a language introduce us? Into what mistakes may we fall in the use of general terms?

4. Are E A E, A I I, E A I, O A O, I O I, I O O allowable moods? If they are, say in what figures. If they are not, give the reason.

5. "It is most unreasonable to suppose that men are sprung from the brutes." Put this proposition in proper form. Point out the subject, copula, and predicate. Put the proposition in the various forms of opposition. Convert it.

6. "All men are responsible for their conduct.
Some men are liable to severe temptation."
What conclusion can be legitimately drawn from these premises? In what figure is the syllogism? Give the special rule for the conclusion in that figure, and the reason of it. Reduce the syllogism.

7. Examine the following:—

"As all good men speak the truth, and as A B speaks the truth, he must be a good man."

"Whatever can be demonstrated is true; but the immortality of the soul cannot be demonstrated, and so it is not true."

"The Enniskillen Dragoons are a brave regiment; A B belongs to the Enniskillen Dragoons, and so must be a brave man."

8. "The United States having encouraged slavery, and slavery being a sin, it may be expected that they will be punished in the government of God." Put this in the form of a sorites; explain the nature of the sorites, and say what modification the dictum must undergo to suit it to the sorites. Expand the reasoning into a string of syllogisms.

9. Define "fallacy;" and in doing so, give both "genus" and "differentia." Logically divide "fallacy;" and in doing so, state the principle of division. To what head of fallacy is the following to be referred:—"He who acts from the love of money is selfish. A B, in seeking a scholarship, is actuated by the love of money; therefore A B is selfish."

10. The chance of its being a fine day to-morrow is two-thirds. The chance of its being rain on the following day is one-third. What is the chance of its being fine weather on both days?

11. Can every thing be proven? Why not? Do you remember the statement of Aristotle on this subject? What are we entitled to assume without proof?

12. Put any one, or a portion of any one, of the propositions of Euclid in syllogistic form; and in doing so, say what logical purposes are served by definitions and axioms in mathematics.

13. What is meant by explanation in physical science, and in the various departments of physical science?

14. Light, as it reaches us from the sun, is deficient in certain red tints. It is found by experiment that certain gases stop these tints. Hence it is argued that the stopping of these red rays of the sun is owing to the sun's atmosphere or ours. According to what canon of induction is this inference drawn? Enunciate the canon. Is there reasoning in the inference? If so, how can it be stated syllogistically?

ENGINEERING SCHOLARSHIPS.—SECOND YEAR STUDENTS.

GEOMETRICAL DRAWING.—*Examiner, Professor James Thomson.*

The Examination comprised questions in Descriptive Geometry, and Perspective and Mechanical Drawing.

Appendix No. 8.

Scholarship Examinations.

PHYSICS.—*Examiner, Dr. Stevelly.*

1. State some of the facts determined by chemists which demonstrate the extreme state of subdivision in which matter, in many cases, may exist, and explain the connexion between these facts and the conclusion you deduce from them.

2. When a smooth surface of glass or metal is accurately counterpoised, in a horizontal position, at one arm of a delicate balance, and the horizontal surface of a fluid (say water or mercury) brought up into contact with it, on causing the fluid again gently to descend from it, the equilibrium of the balance is found to be disturbed: explain what this experiment is used to determine; and show that no part of the effect is due to the pressure of the surrounding air.

3. Describe Brooke Taylor's experiment with two glass plates in contact at one edge and inclined at a small angle; and explain how it illustrates the law by which fluids are raised or depressed by capillary action in tubes of similar material, but differing in internal diameter.

4. Explain how the position of the centre of gravity of bodies of assigned shape, and whose density is uniform, is determined by calculation; and explain how the position of that point can be determined experimentally in the case of irregular bodies. Find the centre of gravity of a uniform cone.

5. Show how the true weight of a body may be determined by a balance though its arms be unequally long, if it be otherwise well made and sensible.

6. Prove that on a single movable pulley, with one end of its rope attached to a fixed obstacle, the power is to the resistance as unity to twice the cosine of one-half the angle contained by the two parts of the cord.

7. Give a general description of the method by which Cavendish determined the mean density of the earth, by ascertaining the amount of the attracting force of gravity exercised by leaden balls on each other.

8. Describe Professor Oërsted's apparatus for determining experimentally the compressibility of liquids: explain its use, and state the results he arrived at in the cases of water, ether, and mercury.

9. Explain the use of a table of specific gravities in calculating the weight of assigned volumes of the various kinds of substances. State the principles of the calculation, and how they are proved.

10. Explain why the currents of rivers are more rapid through the arches of bridges than at the more open parts of their courses. State the exact law which governs the relation of the mean velocities in such cases; and the use made of this in determining the total quantity of water discharged by particular rivers in given times.

11. State the law which Boyle (and Mariotte) proved to govern the relation between the elastic force and density of permanently elastic airs at a constant temperature; and point out how its truth is proved experimentally.

12. Point out the cause of the difference between what are termed noises and musical sounds; and explain why uniform and elastic strings and wires, in a state of tension, yield musical tones, but cracked bells yield only noises.

13. Explain why if a vibrating tuning fork be turned slowly round within a few inches of the ear the sound alternately dies away and grows loud, as the position of the vibrating arms varies.

14. Explain what is meant by the "Index of Refraction;" state the distinction between the "Absolute" and the "Relative" Index; and describe any of the methods by which the indices of refraction of different transparent bodies are determined.

15. Explain what, in terrestrial magnetism, are meant by "agonic lines," and what by the "aclinic line."

16. Explain the distinction between the "quantity" and "intensity" of the electric charge.

17. State the leading facts determined by Faraday with respect to the electrical powers of the Gymnotus Electricus; and explain the contrivance by which he obtained a control over the direction of its electrical discharges.

Appendix No. 8.

Scholarship Examinations.

CHEMISTRY.—*Examiner, Dr. Andrews.*

1. Give an account of the action of heat upon mercury and water while in the liquid state.

2. What is the apparent boiling point of mercury if measured by the absolute expansion of that metal? State, also, the true boiling point, and explain the cause of its being different from the other.

3. If a given quantity of air measure 140 vol. at 10° C., and under a pressure of 29·7 in., what volume will it occupy at 0° C., and under a pressure of 30 inches?

4. How is the tension of a vapour determined?

5. Describe the method of preparing solid carbonic acid. State the cause of its low temperature.

6. Give an account of Wells' theory of the formation of dew.

7. How is the peroxide of hydrogen prepared, and what are its chief properties?

8. Give some account of the methods of preparing, and of the properties of ozone.

9. Describe the different methods which are known of reducing the condensable gases to the liquid state.

10. Change, where necessary, the commonly received atomic weights of the following bodies, so that in every instance one volume of each body may correspond to one atom, viz., hydrogen, oxygen, nitrogen, sulphur, chlorine.

11. Give a full account of the theory of volumes.

12. Describe the different modes of preparation, and the properties of sulphurous acid.

13. Describe fully the tests of hydrocyanic acid; state also its composition and the mode of preparing it.

14. Give an account of the process of manufacturing gas for illuminating purposes; state also the composition of coal gas and the products of its combustion.

15. Enumerate the more important metals, and arrange them in classes according to their chemical properties.

16. What are the compounds which arsenic forms with oxygen and sulphur? State their composition, and describe their properties.

17. Give a comparative description of the properties of starch and dextrine, and describe the conditions under which the former is converted into the latter.

18. Mention the more important alkaloids—natural as well as artificial—which do not contain oxygen; describe their general properties, and the sources from which they are derived.

19. Describe the chemical changes which occur in respiration, and state distinctly the grounds on which it is inferred that hydrogen is oxidized during that process.

20. How is the amount of nitrogen and of sulphur determined in organic bodies containing those elements?

MEDICAL SCHOLARSHIPS.

ANATOMY AND PHYSIOLOGY.—*Examiner, Professor Redfern.*

SECOND YEAR.

1. Describe the inferior edge of the occipital bone, the upper edge of the inferior turbinate, and the external surface of the lachrymal, and state the uses to which their parts are applied; describe also the osseous groove for the tendon of the extensor secundi internodii pollicis, the carpal ends of the second and third metacarpal bones; and the internal surfaces of the fibula, of the middle cuneiform, and of the cuboid bones. How would you distinguish to which side of the body the inferior turbinate, the lachrymal, the second and third metacar-

pal, the fibula, the middle cuneiform, and the cuboid bones belong, without adopting any artificial plan.

2. Explain fully what advantages result from the following arrangements:—The mobility of the scapula; the considerable depth of the tarsal articular surfaces from dorsum to sole; the position of the crucial and lateral ligaments of the knee joint; the difference in strength of the dorsal and plantar ligaments of the tarsus; the direction of the external lateral ligament of the temporo-maxillary articulation; the insertion of the external pterygoid muscle into the inter-articular fibro-cartilage of the last-named articulation; the existence of the coraco-clavicular ligaments; the connexion of the hand with the radius rather than with the ulna; the particular method of implantation of the teeth in the jaws, and that of the union of the frontal and parietal bones.

3. Define the terms secretion and excretion, and state generally the nature of these processes. Enumerate the secretions and the excretions of the human body.

THIRD YEAR.

1. Describe the patella and olecranon, the cuneiform and trapezoid bones, with all their characters of shape, articulations, connexions, &c., &c.; state their homology, and that of the scaphoid and semi-lunar bones of the hand, and give the grounds on which you determine it. State also the characters of the spinous, transverse, and articulating processes of the various regions of the vertebral column, distinguishing those which are unlike the rest in any particular region.

2. After the encephalon has been removed in the ordinary way, describe the whole of the soft parts met with in the dissection of the interior of the base of the cranium, and the method of conducting the dissection.

3. State the process of absorption of alimentary matters in the stomach and intestines; trace the matters, which are absorbed, until they become mixed with the blood, stating the agents and method of absorption, the changes which take place in the absorbed matters as they flow onwards, and the means by which these changes are effected; give examples to show the rapidity of absorption, and state what different results arise when the same matters are absorbed in a concentrated or in a dilute condition, and when they are absorbed rapidly or slowly.

PRACTICAL CHEMISTRY.—*Examiner, Dr. Andrews.*

1. Describe the methods of determining the density of a solid body, and state the precautions required, in order to obtain accurate results.

2. What are the distinctive properties of the salts of potassa and soda?

3. Enumerate the bases of the third group, and show how they may be separated from one another.

4. Give an account of the method of analysing a mixture of phosphate of lime and phosphate of magnesia.

5. What are the characteristic properties of a precipitate of oxalate of lime both in the dry and moist state?

6. What are the blow-pipe reactions of the salts of cobalt, magnesia, and copper?

7. State the chemical changes which take place when FeO, SO_3 is converted into a salt of the sesquioxide, and describe the process.

8. How is the red ferridcyanide of potassium prepared from the yellow ferridcyanide? State also in symbols the composition of both salts.

9. What is the action of caustic potash on the salts of the oxide of copper, and how is this action modified in presence of sugar?

10. State the composition of the compounds of mercury with oxygen and chlorine, and describe the action of reagents upon them.

11. How is the hardness of a water determined?

12. What are the distinctive properties of the uric acid, xanthic oxide, and cystic oxide calculi?

SENIOR SCHOLARSHIPS.

MODERN LANGUAGES AND MODERN HISTORY.—*Examiner, Dr. Frings.*

GERMAN.

Das Verlangen des Kindes nach Unterſcheidung wuchs mit jedem Tage. Da es einmal erfahren hatte, daß die Dinge Namen haben, ſo wollte es auch den Namen von allem hören; es glaubte nicht anders als ſein Vater müſſe alles wiſſen, quälte ihn oft mit Fragen, und gab ihm Anlaß, ſich nach Gegenſtänden zu erkundigen, denen er ſonſt wenig Aufmerkſamkeit gewidmet hatte. Auch der eingeborne Trieb, die Herkunft und das Ende der Dinge zu erfahren, zeigte ſich früh bei dem Knaben. Wenn er fragte, wo der Wind herkomme und wo die Flamme hinkomme, war dem Vater ſeine eigene Beſchränkung erſt recht lebendig; er wünſchte zu erfahren, wie weit ſich der Menſch mit ſeinen Gedanken wagen und wovon er hoffen dürfe, ſich und andern jemals Rechenſchaft zu geben. Die Heftigkeit des Kindes, wenn es irgend einem lebendigen Weſen Unrecht geſchehen ſah, erfreute den Vater höchlich, als das Zeichen eines trefflichen Gemüths. Das Kind ſchlug heftig nach dem Küchenmädchen, das einige Tauben abgeſchnitten hatte. Dieſer ſchöne Begriff wurde denn freilich bald wieder zerſtört, als er den Knaben fand, der ohne Barmherzigkeit Fröſche todtſchlug und Schmetterlinge zerrupfte.—Göthe.

Glücklich, wer im engbegrenzten Raume
Seiner Heimath tiefe Wurzeln ſchlägt,
Und, gleich einem wohlgediehnen Baume,
Feſt ſteht, und die Aeſte nur bewegt!

Der die Lebens-Nothdurft nur begehret,
Und, allein auf Gegenwart beſchränkt,
Was er heut erworben, heut verzehret,
Und ſich weder heftig freut noch kränkt;

Den die Welt zu ſehen nicht gelüſtet,
Der mit Beſſrem Gutes nicht vergleicht,
Und, zur letzten Reiſe ſtets gerüſtet,
Sich geräuſchlos aus dem Leben ſchleicht!

Nur umſonſt verdoppeln wir die Schritte,
Nie erreichen wir das Ziel der Bahn;
Immer ſtehn wir in des Cirkels Mitte,
Und der Umkreis weicht ſo wie wir nahn.

Bürde.

ITALIAN.

Non vedremmo giammai la luce del sole se non si fermasse sopra de' corpi, o almeno sopra delle nuvole. Fugge da noi col fuggir dal nostro atmosfera, e ci abbaglia nel suo spuntare. Lo stesso avviene della verità: non potremmo concepirla mai, se non si fissasse su degli eventi sensibili, o almeno sopra delle metafore o de' paragoni, che la riflettono; lo bisogna dunque un corpo che la rimandi. Il nostro spirito non esercita forza alcuna nelle verità semplicemente metafisiche; è abbagliato da quelle, che procedono dalla Divinità, e non puo conoscer quelle, che non si fissano sulle sue opere. Per questa ragione il linguaggio de' popoli inciviliti non è punto pittoresco; egli è pieno d' idee vaghe e di astrazioni, mentre che quello de' popoli semplici e naturali è moltissimo espressivo, perchè ripieno di similitudini e d' immagini; i primi sono soliti a celare i loro sentimenti, i secondi a dar loro la maggior estensione.

BRUNER: *Preambolo della Capanna Indiana.*

Appendix No. 8.

Scholarship Examinations.

Translate into English:—

Venne a vederlo un giorno medicare
E salutol con amorosi sguardi;
Chè le parole fur ghiacciate e molle,
Ma gli occhi pronti assai come amor volle.

Quand' Ulivier sentì che Forisena
Lo salutò così timidamente,
Fu la sua prima incomportabil pena
Fuggita, che altra doglia al suo cor sente.

L'alma ha di dubbio e di speranza piena,
Ma confirmato assai par nella mente
D'esser amato dalla damigella,
Perchè chi ama assai poco favella.

PULCI.

FRENCH.

1. When did *Mlle. Scudéry* live, and what is the title of her principal work?
2. How far is the history of French literature indebted to the personal influence of Louis XIV?
3. What alteration and improvements did *Voltaire* effect in the style of historical composition?
4. What does *J. J. Rousseau's* principal glory rest on?
5. About what year did *Chateaubriand* die? Which are his principal works, and what is their tendency?
6. Wherein did *Racine* differ from *Corneille* as a dramatic writer?
7. Enumerate some of the principal romance-writers in France of the present day, and name their chief works.
8. Give an account as to the two leading forms or dialects into which the French language was formerly divided?
9. State the principles of French versification.
10. When did *Rabelais* live, and what influence had he on the literary language in France?
11. Compare the French language, as an instrument of expression, with any other language or languages with which you may be acquainted.

NATURAL HISTORY.—*Examiner, Dr. Wyville Thomson.*

BOTANY.

1. Describe minutely the structure, the mode of development, of multiplication, and of reproduction, of one of the Desmidcæ.
2. What do you consider the most prominent distinctions between the simplest forms of plants and of animals?
3. Describe the structure, the mode of nutrition, and the reproduction of Fungi.
4. Describe the mode of development and the principal modifications of the ovule in flowering plants.
5. Describe the different forms of placentation.
6. Describe the process of impregnation in dicotyledonous flowering plants, and the changes which take place from the period of impregnation until the seed reaches maturity.
7. What natural orders of plants reach their maximum in the Northern portions of China and in Japan? on the Andes? on the Northern shores of the Mediterranean?
8. What do you understand by the terms, Genus, Species, Variety?

ZOOLOGY.

1. Describe the structure of the Mammalian liver, and state the nature, the composition, and the functions of its secretions.

2. Describe the principal modifications in the form and structure of the liver in the different classes of the Invertebrata.

3. Describe the respiratory apparatus in insects.

4. What is the structure of the unimpregnated Mammalian ovum?

5. Give an outline of the various stages in the development of the (placental) Mammalian embryo, from the period of impregnation to that of birth.

6. Describe the dentition of the horse, and contrast it with that of the cat, the pig, and the beaver.

7. Give the classification of the Quadrumana, and state any leading facts as to their geographical distribution.

8. To what class and order would you refer *Lepidosiren annectens?* Give your reasons.

9. Give an outline of a generally received classification of fishes.

10. What is the chorda dorsalis? Describe the process by which it is usually modified and obliterated, and state any cases in which it is permanent.

METAPHYSICS.—*Examiner, Rev. Dr. M'Cosh.*

1. (*a*) What are the powers of the mind mentioned by Plato? How do these powers stand related to his dialectic, to his physical, and his social systems? Or,

(*b*) In what treatise does Aristotle treat of the soul? Does he seem to you to be a materialist? What mental faculties does he mention? What is the distinction between *μνησις* and *ἀνάμνησις*?

2. Give an account of the physiological apparatus of the muscular sense and locomotive energy. Give historical and critical notices as to those who have helped to discover the nature of this sense. What knowledge or ideas do we get from it?

3. What is the precise difference between sensation and perception? What metaphysicians have drawn the distinction? What metaphysical purpose is supposed to be served by it?

4. What is the precise process, bodily and mentally, involved in sense-perception, according to Reid, to Brown, and to Hamilton? Offer comments on their agreements and differences.

5. What are the various meanings of the word "conception" in common English literature and in philosophy? Carefully distinguish the various mental exercises which have been designated by this phrase, give a psychological account of each, and say to what faculties you refer it.

6. What Scottish metaphysicians resolve beauty into association of ideas? Give a brief sketch of their views. Their theory seems now to be generally abandoned—on what grounds? In favour of what views?

7. (*a*) To what more ancient philosophers is Plato supposed to be indebted in his dialectic and physical speculations? What is meant by the "dialectics" of Plato? How does his "idea" stand related to human intelligence? Are Plato's ideas the same as "abstract notions?" But has abstraction any thing to do with them? Give the phrases used by Plato. Or,

(*b*) What is the origin of the word "metaphysics?" What is the office of the "First Philosophy," according to Aristotle? What is his four-fold division of causes? In answering this question, give the phrases of Aristotle. What does he mean by *δύναμις*? What by *ἐντελεχεια*? What by *ἐνέργεια*? What by *ἔργον*? What significance have the distinctions implied in these words in the philosophy of Aristotle?

8. Name the philosophic works of Descartes. Is his method the inductive, or what is it? What various views have been taken of what he means by "Cogito ergo sum?" Is it an argument, or what is it?

9. When did Locke begin to plan his essay? When was it published? What does he discuss in the Second Book? What does he mean when he traces all our ideas to sensation and reflection? Where does he treat of intuition?

Appendix No. 8.

Scholarship Examinations.

Can you reconcile his statements about the origin of ideas with his account of intuition?

10. What are the views of substance given by Descartes, Spinoza, and Locke? Examine Spinoza's definition. With whom did Locke carry on a controversy on this subject? Offer comments.

11. What are the views taken of space and time by some of the more eminent men who have speculated on the subject in this country and on the continent, such as Clarke, Leibnitz, Kant, and D. Stewart.

12. What is the date of the publication of Kant's great philosophic work? What are his ideas of pure reason? Do they seem to you to involve real contradictions.

13. Examine the following statement, more particularly in its bearing upon Reid: "Sir J. Mackintosh relates that he once observed to Dr. Thomas Brown that he thought Reid and Hume differed more in words than opinion. Brown answered, 'Yes, Reid bawled out that we must believe in an outward world, but added in a whisper, we can give no reason for our belief. Hume cries out we can give no reason for such a notion, and whispers, I own we cannot get rid of it.'"

14. What are the precise views of cause and effect given by Hume, by Brown, by Kant, and by Hamilton? You are invited to offer comments on some one of them.

15. What seems to you to be involved in the mind's apprehension as to infinity? what conception? and what belief? You are invited to give some account of the controversy between Cousin and Hamilton on this subject.

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1. Employ an hour in discussing the question, whether man has innate ideas.

2. Employ an hour in sketching the philosophy (that of common sense) and the philosophic character of Dr. Thomas Reid.

3. Employ an hour in giving brief answers to the following questions:—

1. Give a short account of the philosophy of Heraclitus.

2. Name the principal Stoic philosophers, and give a brief but precise account of the Stoic doctrine as to pain.

3. Wherein did Anthony Collins and Jonathan Edwards agree, and wherein did they differ, as to the freedom of the will?

4. What are the categories of Aristotle? What the categories of Kant? Had these two philosophers the same end in view in constructing their categories?

5. What is Kant's view of consciousness? What Cousin's criticism upon it.

6. What is Kant's Paralogism of Pure Reason in regard to the ego, or self? What is the answer of Cousin?

7. Aristotle has one set of passages in which he speaks of intellect as a source of principles, and places syllogism first? and another set in which he ascribes principles to sense, experience, and induction. What, according to Hamilton, have been the modes of reconciling these?

8. In speaking of necessity as one of the characters of the principles of common sense, Hamilton says that this necessity is of two kinds.

ANATOMY AND PHYSIOLOGY.—*Examiner, Dr. Redfern.*

ANATOMY.

1. State the steps of a dissection of all the parts included between two lines carried round the upper limb: one three inches above the elbow-joint, and the other three inches below it; and describe the various parts in the order in which they are met with in the dissection. The bones and the joint are not to be included.

2. Describe the structure of the cartilage of the head of the humerus, as it is shown by two microscopical sections—one taken from its free surface and parallel to it, the other made perpendicularly to the free surface through the whole cartilage into the bone, and including part of the latter. The junction of the cartilage and bone is to be carefully described; but the structure of the bone proper is to be omitted.

PHYSIOLOGY.

1. State, in the order of their occurrence, the phenomena which attend the flow of blood through the heart, commencing with its flow along the venæ cavæ and ending with its discharge into the aorta,—indicating the amount of time during which each cavity is in a state of contraction and relaxation, the nature of the action of each valve, and the cause of the impulse; describe the sounds of the heart, their characters, duration, causes, and the positions in which they may be heard.

2. Describe the processes of inspiration and expiration; enumerate the muscles which are concerned in each act, and state the mode of action of each muscle; state the effects which inspiration and expiration produce upon the superficial and the central parts of the lungs respectively; describe the physical phenomena which attend respiration, and the changes which it produces in the air and blood.

3. Explain the whole process of deglutition, distinguishing carefully the actions of all the muscles and the distribution and functions of all the nerves which are concerned in it, explaining the order in which the different muscles and nerves are brought into action, and indicating the parts of the act which are voluntary and those which are involuntary, also those of which we are conscious and those of which we are unconscious, with the advantages which we derive from these arrangements.

Examiner, Dr. Gordon.

SURGICAL ANATOMY.

1. In extra-capsular fracture of the cervix femoris, in what direction are the fragments displaced? What will be the action of the muscles upon the fragments, and will extension of the limb counteract or aggravate the deformity resulting from the accident?

2. Mention the parts exposed and divided in the lateral operation of lithotomy.

3. Mention the parts exposed and divided in ligaturing the left common iliac artery, and the relations of this vessel.

4. Describe the arrangement of the veins around the lower end of the rectum, and the effects of abdominal tumors or pressure upon them.

THERAPEUTICS AND PATHOLOGY.—*Examiner, Professor Ferguson.*

PRACTICE OF MEDICINE.

1. Give the pathology of Bright's disease; the symptoms and signs of its existence.

2. A patient has permanently patent aortic valves, of long standing: describe the symptoms most likely to attend that disease, the signs afforded by the heart's action, and the condition of the organ itself.

3. Describe the appearances presented by a lung in the *last* stage of Phthisis —their physical signs, and all their terminations.

4. Called to a patient, a robust adult, with high pyrexial symptoms, on what evidence would you diagnose acute Pneumonia? State the general directions you would give, and write your prescription *in full* for the treatment of such a case.

5. Describe any peculiarity that you may believe to be presented by the premonitory fever of each of the three eruptive fevers: also the points of difference in the characters of the eruption on the second day.

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